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Western Farm Life

VOL. XX Denver, Colorado, January 1, 1918 Semi-Monthly

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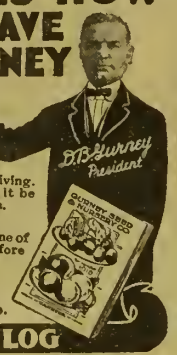

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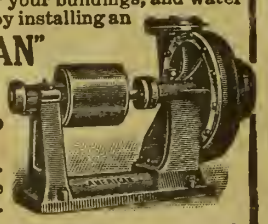

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Early or Late Sowing?

More than one farmer reading your reply to the New Raymer correspondent to the effect that winter wheat should never be sown in August will surely take exception to it. And after all, the men making good on these eastern Colorado dry farms pretty nearly know what their actual experience teaches them.

Thousands upon thousands of acres of wheat were sown this year in August, a far greater acreage than ever before, and as the years go by and the secret of good crops without irrigation comes to be understood better there will be a far greater acreage sown.

A settler from eastern Nebraska coming here would say, like you, wheat sown in August will joint. In eastern Nebraska doubtless September 1 would be early to sow wheat, but there must be much sown by the 15th and no one there would say September 1 was too early. The elevation there may be around 1,000 feet, and out here it is above four thousand. Now for every hundred feet of elevation, you can sow, and should sow, a day earlier, and August 1 here is not as early to sow one's wheat as September 1 is at Omaha, because it is over 4,000 feet everywhere.

Last winter was some winter. Yet I had the best field of wheat and rye in my immediate section on dry land, and I commenced seeding on the second day of August, 1916.

Wheat put in at that time on ground that is ready for it gets such a hold that neither wind nor drouth can affect it, such as we know, for last winter was some winter. As for its jointing, there is absolutely nothing to it. At 4,000 feet altitude it wiggles around over the ground and gets ready for business in the spring. Try it, Mr. Editor, and see. There is nothing like the actual thing. By all means let every farmer who reads this make up his mind that Colorado dry land is the stuff for winter wheat and rye when he plows his land in May or early June, and begins his sowing the 1st of August. The next best thing is to drill it in his corn rows, but commence that the 1st of August too.

The editor will think I am strong on this, but I have seen winter rye sown on the Fourth of July, grow all the rest of the summer and fail to joint, and that convinced me.

They can all sow their wheat late or medium late who wish to, but I won't do it any more. You sometimes get a crop, of course, but no such crop as we are entitled to.—J. A. Tracy, Fort Morgan, Colo.

When Should We Sow Fall Wheat?

I once asked a farmer in eastern Washington when was the best time to plant seed corn. He replied, "I always sow on the 15th of April." I replied, "What do you do when the 15th of April is not the 15th?" He looked at me with astonishment. "The 15th not the 15th. What do you mean?"

I answered, "Seasons vary greatly; some open earlier and some later than normal."

Therefore to say that one should do one's sowing on some particular date is not often good advice. When to sow fall wheat is purely a local question and taking into consideration the various factors that make wheat a successful crop, we should not be unintentionally misled by the success of sowing extra early in one particular locality or season.

Sowing early in August gives the plant one immense advantage, other things being equal; a long season to develop. But we must not forget hat from extra early sowing time till the cold weather in the semi-arid states, which stops plant growing, we may and usually do have some splendid growing weather; result, a good root system to take our wheat thru almost any kind of winter and be ready in the spring to jump right ahead and make a maximum crop even if the spring is a dry one.

But—again that little significant word, but—much winter wheat fails thru being sown too early. Why? Not enough moisture in the soil to keep it alive. In other words, the fine weather was conducive to rapid growth but this used up the moisture and, unless the farmer knows (by means of a soil auger) that he has so many feet of moisture in his soil, he must realize that sowing too early, especially if fall rains or early snows fail, in many sections of the semi-arid region is nothing more nor less than a big gamble. Furthermore, some soils warm up much sooner than others and this is conducive to a more rapid growth of plants; some soils hold moisture better. Also we should realize that our soil changes to some extent every season owing to methods of cultivation, loss of organic matter, and these changes have a marked influence on the moisture-holding capacity of our soils. This article is not written to discourage sowing fall wheat early, or encourage late sowing. It is simply to emphasize the importance of farmers studying cause and effect on their own lands, as Mr. Tracy is doing, and asking them to try and realize that implicit, hard and fast rules cannot be made in agriculture to suit all localities. Soils and seasons vary too much.

The only hard and fast rule that I can call to mind is that we must realize that the would-be successful farmer must use his brains to find out for himself how to get the most out of his land, and to do this he must make a study of his land and of the seasons, asking himself the why and wherefore.

Dry farming, so-called, is the simplest thing on earth in one way. Roughly speaking, we have soils with practically unlimited fertility stored therein, any quantity of abundant sunshine to warm up everything. The minus quantity is usually moisture. Then let us study when and how to sow, so as to utilize for our crops to best advantage what moisture falls on our land.—Dr. Vernon T. Cooke.

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A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, JANUARY 1, 1918 | Number 1

Minnesota No. 13 Being Tested for Mile High Use

RESULTS ARE SHOWN AT BOULDER COUNTY CORN EXHIBIT

ALVIN T. STEINEL

MINNESOTA No. 13 has been chosen as the corn that Boulder county farmers will work with until it has been definitely determined whether the variety will adapt itself to climatic conditions incident to an altitude of 5,000 feet. The first showing of results was made at Longmont on December 12th, at the annual meeting of the Boulder and St. Vrain Valley Agricultural and Commercial association (now changed to Boulder County Farm bureau). The corn show was the feature of the meeting and Minnesota No. 13 was the feature of the corn show, capturing honors for grand champion ear. While sweepstakes for the best ten-ear exhibit went to a white dent shown by Robert Altig, this does not detract from the showing made by No. 13, because the sweepstakes prize was decided strictly on corn points and not on the question of adaptability, which is the vital matter from the farmer's standpoint.

It was a boy who grew the grand champion ear—Shelby Holton, aged 14, of Lyons. This ear of corn, which will be seen by many thousands of people at the National Western Stock show the week of January 21st in Denver, was sold at auction at the rate of one cent per kernel, bringing $7.74. Shelby Holton did pretty well as a result of his season's corn club work. He came away from the Corn show with $26.19 in cash as the day's receipts from the grand champion ear and six half bushel crates of tested seed corn that averaged better than $6 per bushel.

Other boys who had Minnesota No. 13 in the auction sale were Charles Voake of Longmont, whose corn tested 95 per cent germination and Jimmie Bird of Lyons, whose test showed 96½ per cent. The corn sold by Shelby Holton tested 91 per cent. The total sum for seed corn sold, divided between the three boys, was $45.50; this is exclusive of the grand champion ear.

Eighteen boys in the corn club and six adult farmers got a supply of pedigreed No. 13 seed thru the county farm bureau last spring. This seed was secured from Minnesota, the home of No. 13, which is a development of the Minnesota Experiment station from hardy strains formerly grown in northern Iowa.

In Minnesota it was once declared by the farmers that corn could not be profitably grown. No. 13 is one of the few varieties that have made it possible to put that state into the corn belt, with in 1916, 2,520,000 acres and a production of 84,420,000 bushels valued at $67,536,000.

This is the same variety that has become popular in North Dakota, way up near the Canadian border where we so frequently hear of thirty below zero and early fall freezes. Note the accompanying cut which shows an excellent ten-ear exhibit of Minnesota No. 13. This corn was grown from seed directly imported from the Red River valley of the North by Asa C. Maxson, superintendent of the Great Western Sugar company's experimental farm at Longmont. While this exhibit was not entered for competition, the judge nevertheless examined it and expressed his private opinion of the corn. And it wasn't a bad opinion. Note the well filled, evenly rounded tips, the even, closely grained rows. This is real corn and there was a lot more like it at the Longmont show; a lot more to give the lie to the oft repeated tale that corn can't be grown with profit in Colorado.

County Agriculturist Simpson says of No. 13: "It will mature in about 100 days. We plant it May 15th to June 1st and it ripens before frost in a normal season. It is a heavy yielding corn, running very uniformly two ears to the stalk. Under irrigation it will yield in this county 40 to 65 bushels to the acre. It holds up well also under dry land conditions. In all respects, as far as we have gone, it seems to fit into our conditions."

In Greeley last summer F. A. Ogle, agricultural instructor in the high school, grew Minnesota No. 13 to maturity in 87 days.

The first trials in Boulder county were made three years ago with seed obtained from an Adams county farmer, who had secured it from the Minnesota Experiment station and grown it two seasons in Colorado. During 1917 it was decided to put the test on a scientific basis, hence seed was brot directly from Minnesota by the farm bureau, and this was loaned to the boys and the adult farmers who are returning the seed now for further dissemination.

The auction sale of the boys' seed corn will scatter it even farther over the county, and one crate will go over to the Western slope, this having been bought by ex-Governor Ammons who will make a test of it on his farm at Paonia in Delta county. The altitude there is about 6,000 feet, but the average temperature is higher than at 5,000 feet on the Eastern slope, and the growing season fully as long.

Mr. Maxson, in a talk to the farmers on the subject of corn, declared that the profitable growing of the crop in Boulder county depended on the use made of it; that it must be fed at home and not be counted on as a cash crop for sale of the grain. The silo, he said, was the best means of utilizing the bulk of the corn in Boulder countly. He lived on a farm in the Red River valley of the North in his youth, and his father was the first farmer in a section then entirely given over to small grain growing, to try corn. His neighbors laughed at him, but he raised 12,000 baskets the first season of well matured corn and his work started a strain of corn that became very popular in the valley. Today Minnesota No. 13, adapted to North Dakota conditions, is grown on many farms in that famous valley, and it is seed from there that Mr. Maxson is using on the Sugar company's farm.

Ex-Governor Ammons made the principal address at the meeting, his topic being farm extension work. He dwelt at some length on the various phases of county agent work, declaring that without a county agent such a showing of corn as was there displayed could not have been assembled in Boulder county. He declared that every farmer was interested in the success of every other farmer; that it would not do for any farmer to let a newcomer fail for lack of information that could be supplied thru the channel provided by the county agent work, or by word of mouth from one farmer to another. We of the west have a great advantage over the far eastern states in that we are starting with a fertile soil and the knowledge of the proper means to conserve that fertility. His advice was to use the county agent as the link between the farm and the college and experiment station as well as the markets, to the end that the business of farming may continue to thrive and fertility be maintained instead of having the land go back into brush, as has happened in so many older sections. He declared that our development had only begun; that we have some two and a half million acres of dry farming land under cultivation with about 15,000,000 acres more capable of cultivation; that eleven million acre feet of water goes to waste; that all this should be used before we can say our agricultural development is finished. He concluded with a stirring appeal for backing up the boys in the trenches with every pound of food that can be produced on the fertile farms of Colorado.

President Groom's annual address was somewhat along the same lines, emphasizing the need for further effort to help win the war by producing food. County Agriculturist Simpson made his annual report, reviewing the many activities such as dairy improvement, orchard management, standardization of crops, beautifying of home and school grounds, club work, home economics work, labor exchange service, farm loan organization, bean grower's organization, etc., etc. The county agriculturist traveled nearly 10,000 miles in the line of his duties during the year.

In regard to club work he emphasized this fact: eight boys and girls from Boulder county are now enrolled at the Agricultural college as a direct result of their membership in clubs.

An interesting report concerning the pure seed law was made by Mr. Weld of Boulder, who was chairman of the committee that succeeded in getting this act thru the legislature last winter. He spoke of the effort made by J. K. Mullen, head of the State War Council, to have the provisions of the law nullified, and commended Attorney General Hubbard for his prompt action to prevent this.

Trustees were elected as follows: Charles L. Hover, Longmont; Frank Wadsworth, Longmont; J. H. Golden, Longmont; W. A.

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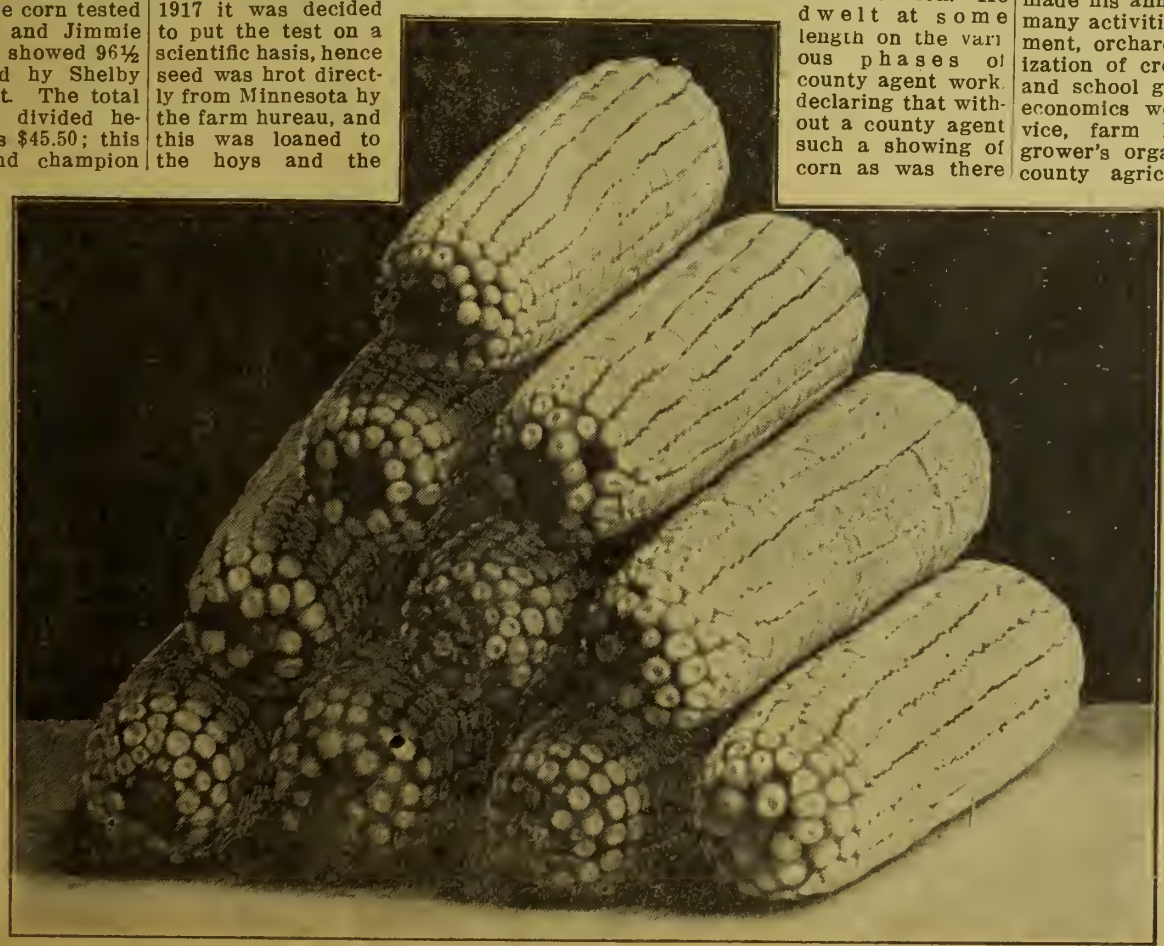

Ten ear exhibit of Minnesota No. 13 grown from North Dakota seed on Great Western Sugar Company's experimental farm at Longmont, under direction of Asa C. Maxson

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Gypsum Will Redeem the San Luis Valley Lands

DR. HEADDEN'S FINDINGS ON BLACK ALKALI PROBLEM ANNOUNCED

Cause of the virtual ruin of some four to five hundred thousand acres of once productive farming land in the upper part of the San Luis valley of Colorado and the discovery of a remedy which promises to redeem this land are the outstanding features of two bulletins just issued by the Colorado State Experiment station. Dr. W. P. Headden is the author of the bulletins which are No. 230 entitled "The Waters of the Rio Grande," and No. 231, "Black Alkali in the San Luis Valley." The first is an exhaustive study of the stream that flows thru the San Luis valley, incidentally bringing out the problems that have so seriously affected agriculture in a portion of the valley; the second relates specifically to these problems and the remedy.

Dr. Headden's research work has given him a national reputation, and noteworthy as are his previous contributions to science on problems relating to the chemistry of agriculture, the present bulletins will prove perhaps his most important direct contribution to the economic welfare of the state. While the bulletins apply specifically to the troubles of the San Luis valley, the black alkali problem is not confined to that section, but exists also in some parts of the fruit growing region of the Western slope.

The investigations that are recorded in the bulletins cover a period of more than ten years of observation and experimentation. Briefly the facts disclosed are these:

Black alkali, so-called, is the primary cause of soil poisoning that has made a large portion of the upper San Luis valley unproductive.

This substance, chemically known as sodic carbonate, is brot to the surface by sub-irrigation, a practice that must be stopped if the lands in question are to be redeemed.

The white alkali or sodic sulfate is harmless and not the cause of the present condition of the lands.

Soil exhaustion has little if any part in the unfavorable conditions that now exist.

Benefits expected from drainage have not been realized and cannot be by reason of conditions fully explained in the bulletins.

There is no hope of ever getting rid of the black alkali, which exists to great depths and in immeasurable quantities, but its effects can be neutralized with comparative ease.

The agency thru which this is to be accomplished is the application of gypsum, which converts the so-called black alkali into the harmless white substance.

Gypsum is not found in the San Luis valley, but can be brot in from the Eastern slope. Railroad rates at present are prohibitive, but Dr. Headden suggests that, as this is a community problem of vital interest to the development of the state, we can reasonably hope for a more favorable rate. This matter, no doubt, will be taken up by the commercial and farm organizations interested in the development of the valley with the state utilities commission. Some of the more important extracts are given on this page from Bulletin No. 231. All farmers interested in the black alkali problem should immediately write to the State Experiment station at Fort Collins, especially for Bulletin No. 231.

Extracts From Bulletin 231

It is known to everyone acquainted with the irrigation of the valley since the early nineties, that at one time the section of the valley about Mosca and Hooper was a most remarkable wheat producing country. Mosca, for instance, was a thriving town with a large flouring mill, an elevator and a flourishing business. This prosperity passed a number of years ago; the elevator is unused, the mill was torn down, and, if I am rightly informed, a part of the machinery was taken out of the valley and the rest of it used in building the mills at Alamosa and La Jara. The mill at Hooper has only recently been dismantled as a flouring mill. As wheat growing was the biggest interest of this section, the milling industry may be assumed to present faithfully the course of the farming industry. Stock-raising, sheep, hogs, and cattle, has enabled some to continue operations with some success, but as a general statement, the condition of this section of the valley has been deplorable for the past 10 or 15 years. The towns of Mosca and Hooper are mentioned because they were the centers of this former prosperity, which was participated in by a large section of country. The area now mostly unproductive is from 400,000 to 500,000 acres. The cause usually assigned for this condition is seepage.

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"White Alkali" Is Not Injurious

Another cause often assigned for an unproductive condition of our lands is "white alkali." That there is alkali in this, as well as in other sections of the valley, is thoroly well known. There is more evidence of this class of alkalis outside this section than within it.

It is natural that, when a section of country measured in square miles is covered by a white efflorescence, perhaps literally as white as snow, that it should make an impression upon one as an important factor in any unproductiveness of the land which may be observed. That this has been the case and has been passed on from one to another and from one section of country to another from the beginning of our agriculture till the present time is true, and it is unfortunate that it is true, for, whatever the results of laboratory experiments may be, I have yet to see the proof that these "white alkalis" constitute any seriously unfavorable factor in our field practice.

Black Alkali Poisonous to Plants

There are other alkalis than the sulfates—the "white alkalis," so-called because of their color, which contrasts sharply with the carbonates—which, when present in soils containing much organic matter, give rise to very dark, almost black, solutions and crusts on the surface of the ground, for which reason they are called "black alkalis." The alkali itself is not black; it is white, just as white as the so-called white alkali, but it dissolves organic matter (humus) with a brown or black color. This alkali is so corrosive that it will destroy the tissues of young plants and even of older ones, and, of course, may kill them. Another effect of sodic carbonate, "black alkali," is to make the ground puddle and cake so that when it is plowed it breaks up in hard cakes or lumps. This effect is so marked on some soils that the carbonate formed, due to the application of Chile saltpetre, cakes the ground so badly that anyone can tell just where the saltpetre was applied.

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High Water-Plane Not the Cause of Crop Troubles

The people of this valley themselves are not all satisfied that the benefits claimed for drainage have been realized or are attainable. That the presence of a high water-plane alone has, in fact, done the harm to the 400,000 or 500,000 acres of land included in the Moffat-Hooper-Mosca section is claimed by some. The view that I take is that this is not so. The water-plane is certainly too high in many places in this section, but in others, it is low enough for the production, under other conditions, of good crops, whereas this land produces nothing. In the practice of sub-irrigation, the water-plane is intentionally raised to within 22 inches, and even as near as 12 inches, of the surface, with no detrimental results; at least, this is the information that I have received. Doubting some of the information, I have made inquiry concerning the parties giving it, and concerning the facts; they seem to be reliable.

Agronomists may doubt that good crops of alfalfa may be grown year after year on land in which the water-plane is held within 12 inches of the surface thruout the growing season. It seemed to me remarkable but, after what I have seen and learned from some of these people, I feel compelled to accept their statements. I have presented these facts of farm practice because of their suggestiveness in connection with the claims made—that it **is because of the waterlogged condition of the Hooper-Mosca section that it will not produce as in former years, but almost not at all.** I have refrained from writing of these facts for ten years or more, but the bad condition of this section is now so well known to everyone that there is no good reason why one should not write frankly about it.

There is no question but that water has been used unwisely and that sub-irrigation is not the best practice for the valley, nor is there any question but that there should be drainage enough to take the water off the surface of the ground.

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I do not think that any practical farmer will deny that the practical results obtained by the expenditure of considerable sums of money on drainage ditches have been disappointingly small. These experiments with drainage ditches have been made on a sufficient scale and length of time to justify a very good judgment of how much is to be hoped for from these alone, and, as said, the results are disappointingly small.

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"Black Alkali" Present in Detrimental Quantities

This fact is that, while the total amount of alkali in the soil of the Hooper-Mosca section is comparatively moderate, the character of this alkali is very bad. There is present, in most of the land, sodic carbonate, "black alkali," enough to be detrimental, if not fatal, to any crop that may be planted. The best information at my disposal indicates that the presence of 400 parts of sodic carbonate to the million parts of soil is injurious, or possibly fatal, while it is probable that few, if any crops can survive in the presence of as much as 500 parts to the million. The amount of alkali in this land is generally taken at something like 1,000 to 1,200 parts to the million. This amount of "white alkali" would not be in the least dangerous, but if one-half of it be "black alkali," very serious trouble would ensue. In fact, the land would be ruined for all practical purposes.

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"Black Alkali" Comes From Waters of Valley

The source of this carbonate is the water of the valley. The artesian water at La Jara, obtained at 65 to 70 feet, is also good water. This is not the case with the town well or the mill will at Mosca, nor with the mill well or the railroad well, or the town well at Hooper. These waters are brown, strongly alkaline and contain sulfur; they even smell of it.

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The presence of gas in this district is, in some instances, abundant enough to furnish light and fuel for the houses of the owners.

The conditions that cause the waters to be brown and to carry sodic carbonate in such easily recognizable quantities have produced the difficulties that threatened the district from the beginning and which the practice of sub-irrigation has made real.

All of the ground waters that I have examined from Center east to Hooper and from Hooper, I may add from Moffat, south to below McGinty, carry sodic carbonate in solution. In the case of the brown waters, there is present in the strata from which the waters come, enough humus which is soluble in sodic carbonate, to impart the brown color. Some of the wells near the edge of this area, especially shallow wells, carry sodic carbonate, though they are only slightly or not at all colored.

✦ ✦ ✦

The artesian waters along and south of the Rio Grande are excellent waters for all domestic purposes; they carry carbonate of soda with the carbonate of lime and silica just as the waters of the mountain streams do and in only slightly greater quantities. This is not true of the brown waters, for they carry almost nothing besides the sodic carbonate and they carry a great deal of this salt. The mill well at Mosca, for instance, carries 1½ pounds of sodic carbonate in every 1,000 pounds of water and only 1-10 of a pound of all other solids taken together. A barrel of this water weighs a trifle over 300 pounds and this well will furnish a great many barrels in an hour.

✦ ✦ ✦

These results show that even the drain-water and that of shallow wells is rich in sodic carbonate. This sodic carbonate does not make the water unpleasant to drink; on the contrary, waters carrying only a moderate amount of it are pleasant waters; for instance, the waters from the first flow at either Mosca or Hooper which carry less than 400 parts per million are agreeable, tho they taste slightly of sulfur. The water from the 15-foot well near McGinty is very pleasant to drink, tho it carries 236 parts of sodic carbonate to the million. It is a very different matter when these waters are applied to the surface of the ground or to crops and allowed to evaporate to dryness or the solution to become concentrated. When this happens, the crops will not grow and the land becomes hard and difficult to handle. Such land does not necessarily show any other signs of its bad condition. This is the explanation for the fact that this brown water is not good for irrigating purposes. This is the reason for its killing vegetation.

✦ ✦ ✦

The presence of sodic carbonate explains the experience of another man who stated that water flowing from a well had spread out over a strip of ground and continued to do so for several months, and after this nothing would grow on this land. This took place several years ago and the land has not yet recovered.

The brown artesian water is bad and the testimony of users of water in the valley is that they prefer river water to artesian for irrigating their crops. The brown artesian waters have not been used for irrigating but they, as well as the water from the shallow well and that from the drainage ditch, show that this "black alkali" is in the soil and, more than this, that it is in all of this section of the valley down to a depth of 780 feet at least. **The greater the depth from which the water comes the richer it is in "black alkali."**

Sub-Irrigation, Even With River Water Brings Black Alkali to the Surface by Capillarity and Evaporation

The system of irrigation generally practiced is sub-irrigation, in which the water-plane is brot within a few inches of the surface, from 22 to 12 inches. River water is used for this purpose but it effects the bringing of this "black alkali" to the surface by capillarity and evaporation. The fact that it is possible to maintain the level of the water so near the surface shows that for some reason or other the water does not run down thru the soil to any great depth, but is held near the surface, either because the lower part of the soil is so full of water that the irrigating water applied simply lies on top of the previous water-table, or that the lower portion of the soil won't let the water run thru. The fact is that, in this portion of the valley, the water-plane is generally high; I found it 36 or 37 inches below the surface, but it can be found at a less depth in other places. This ground-water carries about 260 parts of black alkali to the million parts of water. It mixes with the river-water added in sub-irrigating the land and brings the "black alkali" with it. **This went on for a number of years till the land became so rich in "black alkali" that crops were no longer successfully raised and this is the condition today thruout this section of some 400,000 or 500,000 acres.** Most of the people of the valley still think that sub-irriga-

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Fundamental Scientific Facts for the Farmer

THE CHEMISTRY OF CARBON AND NITROGEN IN FUEL AND FOODS

E. R. PARSONS

THERE was a time when city folks used to think that any man would do for a farmer. Few think so now. To be a successful farmer demands some knowledge of a hundred and one different things such as the soil, chemistry, botany, plant breeding, stock raising and breeding, veterinary science, machinery, engineering, blacksmithing, carpentering, bronco-busting and some others.

Besides these the dry farmer has to understand all about the accumulation, and conservation of moisture, and the soil and water physics of the semi-arid districts.

The Department of Agriculture and the colleges are working together for the farmer as they never did before and everything from planting the crop to feeding it is worked out on a scientific basis.

In the old days we used to feed our stock any old thing, and as little as possible, and amuse ourselves in the spring of the year by hauling cows out of mud holes; but now that we have got over the superstition that we could not raise big crops without irrigation, our cattle are well fed, and we raise them on the scientific idea of building up the body of the animal by supplying the right proportion of those elements which are required to accomplish this end in the most economic way.

Carbon and Nitrogen

Carbon and nitrogen are the two big elements in this work and it is our purpose to show as nearly as possible how they do it.

The carbon compounds mean fat, heat, energy. The nitrogen compounds are the basis of the meat or muscle which is the means of applying the energy developed in the body by the combustion of the carbon. In the vegetable world the carbon compounds supply almost all of the material of which the plant is composed, the nitrogen compound, protein being seldom more than 12 per cent in plant cellulose.

Compared to the carbon elements in vegetable matter the protein which is the flesh builder in the animal economy, is found in a very small proportion; therefore the main problem which confronts the farmer who feeds is to raise the crops which carry the highest content of this scarce but highly necessary substance.

Plant tissue which is built up of cells, and therefore called cellulose which in trees eventually hardens into wood, and the starch and sugar found in all sap are classed as carbohydrates which means carbon and water (hydor) or to be exact, carbon, oxygen, and hydrogen (water being oxygen and hydrogen). There are other carbonaceous bodies such as coal, mineral oils, paraffin, turpentine and some gums which having no oxygen are called hydrocarbons.

If we burn up the carbon compounds of a tree by setting fire to it there is little left but a handful of ash which represents the mineral or soil matter and is seldom more than 10 per cent of the total dry weight. So much depends on the soil in growing things; but how little they get out of it!

Quick Combustion and Slow Combustion

If we except electricity from wind or water power we derive all our artificial heat from the carbon compounds; for coal which is merely fossilized vegetable matter, petroleum, gasoline and all the oils belong in this class.

Carbonaceous matter burns because the oxygen of the atmosphere has a great affinity for it. A spark may start a fire (quick combustion). The oxygen rushes in with the air, combines with the carbon, and the two together go off into the atmosphere as carbonic acid gas (carbon dioxide).

Carbon compounds burn, however, by exactly the same process (oxidization) without any fire whatever (slow combustion).

Vegetable matter in a pile heats and burns unless sufficiently dry to deter chemical action. Even manure and trash spread out in the fields eventually decays or burns up, but so slowly that the heat given off is imperceptible. There is some basis in fact for the farmer's belief that humus warms the soil. The burning of humus, however, by slow combustion is minimized by deep plowing which covers it up, mixes it with a large amount of dirt and protects it from the oxygen.

Animal Heat

This is obtained by slow combustion in the lungs. The carbon element which is burned up is the fat. The more exercise, the quicker the breathing, the more fat is burned up. More feed should be given stock in winter because carbon means heat. Zero weather soon cuts the cream check. A warm barn saves feed.

Carbon in the Soil

When carbon dioxide is given off by humus in the soil, and is buried deeply enough to prevent it from escaping into the atmosphere much of it is taken up by the water, and combines with mineral matter forming the carbonates of soda, potash, lime, ammonia, magnesia, etc., which with other salts, may be found in the soil solution which supports plant life.

Getting Carbon From the Air

The major part of the carbon used by plants is said to be taken from the air which is breathed in by the leaves which have the function of fixing the carbon from the carbon dioxide of the atmosphere and returning the surplus oxygen.

The growth of vegetation is naturally a slow process, for the amount of this gas in the air is only about 1 in 2000 parts; but no insignificant amount when the enormous leaf surface of some plants and trees is taken into consideration, together with the incessant air movements which are constantly supplying fresh material.

The carbon dioxide in the air is supplied from fires, from the lungs of animals, and from the decay or slow combustion of all dead vegetable and animal matter. Thus it is evident that carbon like everything else is never lost. It moves around in a circle—gas, vegetable matter, which perhaps is consumed by some animal, then death, decay, and gas again.

Where the Meat Comes From

We have already seen that when carbo-hydrates are burned they give off heat. Where did they get it? This perhaps is the most interesting part of the whole cycle.

Carbonic acid gas itself does not burn; on the contrary, it puts a light out, for after it is transformed into carbo-hydrates, and becomes wood, or cornstalks, for instance, it burns very readily, and gives off heat which has been absorbed in the transforming process, and as the scientists used to say, rendered latent.

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Let Vaplon Help You Succeed With Your Hens

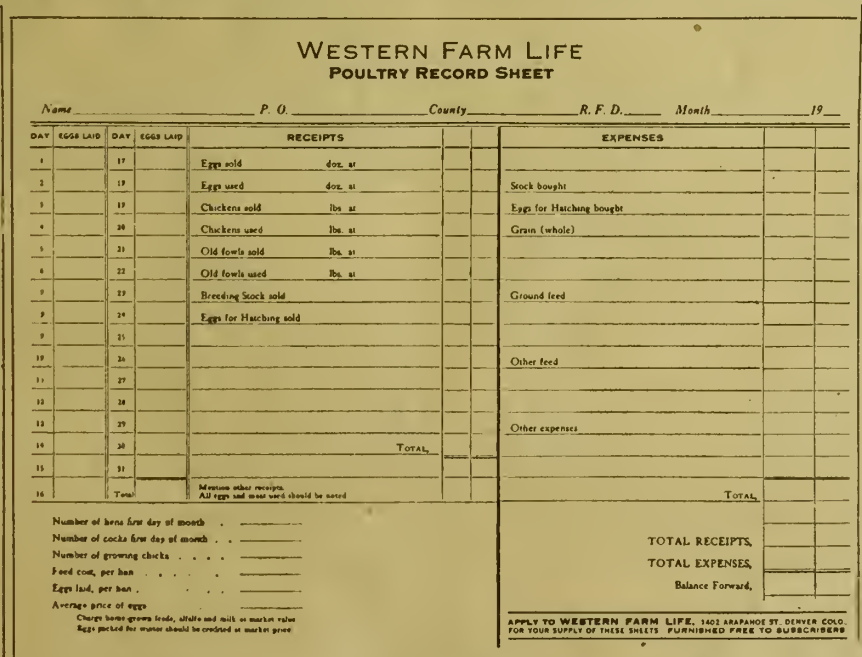
POULTRY RECORD SHEETS FURNISHED FREE TO OUR SUBSCRIBERS

GET into the habit of keeping a record on your farming operations. Sooner or later you will be obliged to do it. Better start now, because the government expects every farmer to make a return under the income tax law. Details about the law, as it applies to the farmer, are given on another page of this issue. Right here we want to take up only one phase of the matter, that of keeping a record on the poultry flock. The accompanying cut will show you a Western Farm Life Poultry Record Sheet. These sheets are for free distribution to farmers and poultry raisers who are subscribers. Fill out the coupon on this page or drop us a postal card and we will mail you a sufficient supply to last you six months. When these are gone send for more.

There is only one condition attached to this. You are requested to send in a summary of your year's poultry operations after you have kept this record for one year.

We want to help you make a success of the flock. Mr. W. E. Vaplon, editor of our poultry department, is an authority on commercial poultry culture. He made a success of the business before he started to tell others how it is done and he has helped thousands on the road to poultry success. He had charge of the poultry department at Colorado Agricultural college for some years and was engaged also as a poultry extension lecturer by Purdue University in Indiana. He is the author of several standard bulletins on the subject. He knows how to talk poultry, how to write poultry and how to raise poultry so that it will show a profit.

Let him help you with the farm flock. His services are absolutely free for consultation by any subscriber of Western Farm Life. In the next few issues he will take up various phases of poultry culture at length, and thruout the year his page will carry short articles and answers to such questions as are of general application. Start the new season right. Send for the free record sheets and be in shape to keep books on the flock as soon as spring opens. We are giving you this service so that you may know whether you are succeeding with poultry and learn the reason why if you are not succeeding.



WESTERN FARM LIFE
POULTRY RECORD SHEET

Name _____ P. O. _____ County _____ R. F. D. _____ Month _____ 19__

DAY	EGGS LAID	DAY	EGGS LAID	RECEIPTS			EXPENSES		
1		17		Eggs sold	doz. at				
2		18		Eggs used	doz. at		Stock bought		
3		19		Chickens sold	lbs. at		Eggs for Hatching bought		
4		20		Chickens used	lbs. at		Grain (whole)		
5		21		Old fowls sold	lbs. at				
6		22		Old fowls used	lbs. at				
7		23		Breeding Stock sold			Ground feed		
8		24		Eggs for Hatching sold					
9		25							
10		26					Other feed		
11		27							
12		28							
13		29					Other expenses		
14		30			TOTAL				
15		31							
16		Total		Mention other receipts. All eggs and meat used should be noted				TOTAL	

Number of hens first day of month . _____
Number of cocks first day of month . . _____
Number of growing chicks . . . . _____
Feed cost, per hen . . . . . _____
Eggs laid, per hen . . . . _____
Average price of eggs _____
Charge home-grown feeds, alfalfa and milk at market value
Eggs packed for market should be credited at market price

TOTAL RECEIPTS,
TOTAL EXPENSES,
Balance Forward,

APPLY TO WESTERN FARM LIFE, 1402 ARAPAHOE ST. DENVER COLO. FOR YOUR SUPPLY OF THESE SHEETS FURNISHED FREE TO SUBSCRIBERS

KEEP BOOKS

W. E. Vaplon

It pays to KNOW. The farm flock should be a greater factor in the farmers' business. The business hen pays, —witness the following account of a Missouri flock. To read such accounts is of slight value; get out your pencil, put on a point, turn over an old envelope, and figure a little.

Compare the average price received by Mr. Hollar for eggs during the year with what you receive. He probably averaged a higher price per dozen but his feed cost was nearly twice what a Colorado farmer's needs to be. His egg average was 40 or 50 per cent more than the average Colorado farmer's but our average should be increased 50 per cent. A good way to better the average is to CULL out, eternally, the poor hens. A lot of roosters don't help the egg yield, either, but do increase the cost of feeding the flock.

A farm hen which will earn $3.47 above her feed cost is a valuable asset. M. P. Hollar of Ray county had 133 hens which averaged that amount for a year, according to figures supplied by him to the University of Missouri College of Agriculture. Mr. Hollar started his test April 1, 1916, and produced during the twelve succeeding months $468.84 worth of eggs and $235.60 worth of birds. His feed cost for the year was $242.05 which left a net profit of $462.39. His hens averaged 141 eggs during the year.

Here are some more figures. Figures are good if only as an incentive to better doing. Paste some of these cost figures up for comparison. In a three-year experiment conducted by the Department of Agriculture, it was found that feed to produce one dozen eggs cost 10 cents with pullets, 14 cents with two-year-old hens, and 19 cents with three-year-old hens. These were the cost figures of feed at the time of the experiment, which began in 1912, and must be corrected to present prices. The chief value of these figures is the fact brot out that pullets are the most economical producers of eggs and that hens are usually not profitable producers of eggs after the second year. Not only is this true, but the RIGHT pullet begins laying when eggs are highest in price,—October or November, while the hen is then taking her annual vacation,—the older the hen the longer her vacation.

In this same experiment it was found that the first year the pullets averaged 131 eggs each; in their second year they averaged 92.7 eggs, and in their third year 78.2. This is too much of a drop in egg yield and is probably greater than will be found in most cases, but again the superiority of the pullet as a layer is shown. The general purpose hens ate 72 pounds of grain annually; the Leghorns ate 55 pounds. The Leghorns on free range gave a considerably greater egg yield

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National Western Stock Show

BIGGEST AND BEST PROGRAM EVER OFFERED

PLANS for the forthcoming Twelfth Annual National Western Stock Show are now well enough advanced to predict certainly that this will he the greatest and most interesting show ever staged by the Western Stock Show Association. The show will he complete in all its many departments and the only difficulty the management is experiencing is to find sufficient room to accommodate all of the exhibits that are making application for admission. The pure-bred cattle exhibits will include the very hest specimens of the various breeds—both of beef and milk cattle—that can he found in the United States, and this practically means the best in the world. In the horse department the exhibition of heavy draft horses will he the greatest ever seen in the West and will include some horses of more than national reputation. In the Belgian division, for instance, will be the wonderful Belgian stallion "Irvindale Rowdy," which was the champion at the International Show in Chicago and which has heen purchased hy J. D. Brunton of Aspen, Colo., for $25,000. There will he a number of prize-winning horses of national reputation and this feature of the show will he of more than usual interest.

The boys' and girls' clubs of the state will make an exhibition of the prize-winning exhibits from each county of the state under the auspices of the Agricultural College, and, incidentally, will compete for the grand championship of the state. More than twenty counties of the state will participate in this competition. The Agricultural College will also have a splendid exhibit and will conduct daily illustrated lectures in a special lecture room provided for this show.

The poultry department will be complete in every way. This is the one big poultry show of the West and includes not only the hest specimens of local fanciers hut many exhibits from adjoining states.

The hog division this year will include the Hampshire hreed as well as the Duroc-Jersey, Berkshires and Poland-China. A hreeding sheep department has also heen added to the show this year and will hring in a number of hreeders of pure-hred sheep.

In the carlot division there will he a wonderful exhibit of hreeding cattle, including registered hulls and heifers in carloads; "feeder" cattle, over one hundred carloads on exhibition; fat hogs, fat cattle and fat sheep. There is every indication that the yards will he filled to overflowing and that there will he buyers here from all parts of the country to purchase those that are offered for sale.

The Horse Show will be higger and hetter than ever. One of the features of the show this year will he a competition of hackney horses from the hest stables in the United States. The Denver show has never paid much attention to the hackneys, but these wonderful ponies have a fascination all their own and visitors to the show this year will he delighted with the exhibition of high-steppers of this wonderful hreed.

The railroads have made especially low rates for the show and Denver is preparing to take care of the greatest crowd in its history. Secretary Harry Burhans of the Denver Tourist Bureau has taken charge of the hotel and room accommodations and it is expected that everyone will be properly housed, hut those contemplating coming are urged to make reservations in advance, as the hotels and roominghouses will certainly be filled. Special parties of stockmen are coming from various parts of the country and everyone who counts for anything in the livestock world will be in Denver during Stock Show week.

The show opens on Saturday morning, January 19, with the annual students' judging contest, which will take in teams from the principal agricultural colleges of the West and from the agricultural schools and high schools. The Stock Show proper will open on Monday morning, January 21, with judging in all of the classes. One of the features of the show will be the public sales of pure-hred cattle, which this year will he held in the main arena. The Aberdeen-Angus cattle will sell on Wednesday morning, January 23, at 9 o'clock. The Hereford cattle will sell on Thursday, January 24, at 9 a. m., and the Shorthorn cattle will sell on Friday, January 25, at 9 a. m. At 1 p. m. on Friday, January 25, there will be a great public sale of Holstein-Friesian cattle. These sales are all under the auspices of the national associations and the best specimens of the hreed will he offered, the idea heing to get these good cattle well distributed thruout the West.

Stock Show week in Denver is now an established event and in addition to the Stock Show itself there will he the usual numerous conventions and meetings, both local and intermountain in character. The indications are that the attendance will he far in excess of any previous year.

One of the features in the dairy division will he the exhibition of a Colorado-bred herd of Holsteins hy Hall Brothers of the Western Holstein Farm. Every one of the 16 pure-hred registered animals in the exhibit will be a Colorado product. Hall Brothers also will have a Red Cross hull calf in the auction sale. Other hreeders are offering good calves for that feature of the sale, which is expected to net the American Red Cross a large sum.

There has heen unprecedented demand for dairy cattle in the mountain states during the last two years, because of the building of condensaries and the extension of the cheese-making industry. The sale of Holsteins will, therefore, attract a large number of buyers from Colorado and neighboring states.

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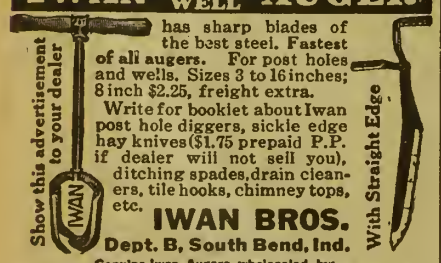
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Five Years to Prove Up

1. I filed on a homestead under the three year law. Will I have to make final proof when the three years are up, or can I wait for five years before proving up?

2. Can I give another person the right to clear and break land on my homestead for what he can make on it, or would this make the homestead liable to contest?—W. S., N. Mex.

Ans. 1. Under the three year homestead law you have five years from date of entry to make final proof, the law providing that requirements for cultivation be continued until final proof.

2. We know of no provision that forbids you making an arrangement with some other person to break and clear land on your homestead, providing you live on the place and comply with all requirements as to cultivation, etc. If there is any doubt in your mind as to the character of the arrangement you propose to make we would suggest that you apply for advice to the Register of the Land Office of the district in which your entry is located.

Troubled With Abortion

For the last three or four months our cows have been losing their calves when nearly mature. I believe they have all been haired out. They are on the range and have a little wheat straw during storms. Cows are in good condition. Can you tell me the cause?—A. H., Hermes, Colo.

It probably is contagious abortion but the fact that the calves are so well matured before they are dropped would cast the suspicion elsewhere. Ergot in hay and grasses will cause abortion. Possibly a more succulent feed will stop the losses. Contagious abortion is hard to control anywhere and under range conditions seems almost hopeless. Contagious abortion is liable to disappear at any time as suddenly as it came. Bacterins might be tried altho their value is questionable. For information on vaccination write to The American Veterinary Supply Co., Kansas City, Mo.—Dr. G. H. Glover, Veterinary Dept., Colorado Agricultural College.

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Farmers Must Pay Income Tax

FILL OUT YOUR SCHEDULE NOW FOR 1917

RETURNS under the new federal income tax law must be made between January 1 and March 1, 1918, for the taxes of the year 1917. The income tax law hits all classes of citizens, including the farmer. Every head of a family having a net income of $2,000 or over and every unmarried person not the head of a family having a net income of $1,000 or more must pay an income tax. EVERY CITIZEN must find out whether he is subject to the income tax; what constitutes the "net income" and what "exemption" means under the law. Nobody is able to decide these matters without exact knowledge. The communication which follows comes from Mark A. Skinner, Internal Revenue Collector for the district including the states of Colorado and Wyoming. Read it carefully. Other statements will follow in future issues until our readers are familiar with what is required of them under the new law.

WESTERN FARM LIFE will answer questions concerning the law. We will have the advice of Mr. Skinner in answering these questions. However, you can get your information direct if you will watch your home papers, or inquire at your postoffice or bank about the coming into your county of a government income tax man, whose business it is to help you fill out the schedule and who is authorized to take your taxes.

Read the following carefully and remember that severe penalties are provided for failure to make a proper return. All of this is a part of Uncle Sam's big drive to win the war. Let us cheerfully do our part:

Denver, Colo.—You won't have to figure out your own income tax all by yourself hereafter. The government is going to send out men to help you. It will be up to you to hunt up these men, who will be sent into every county seat town, and some other towns besides, to meet the people. Postmasters, bankers and newspapers will be able to tell you when the government's income tax man will be around, and where to find him. He will answer your questions, swear you to the return, take your money and remove the wrinkles from your brow. Returns of income for 1917 must be made between January 1 and March 1, 1918.

"The government recognizes," Collector of Internal Revenue Mark A. Skinner said, "that many persons experience a good deal of difficulty in filling out income tax forms. It recognizes, too, that taxpayers resident at points where collectors' offices are not easily accessible find it hard to get proper instruction in the law. In 1918, when every married person living with wife or husband and having a net income of $2,000, and every unmarried person not the head of a family and having a net income of $1,000 for the year 1917, must make return of income on the form prescribed, there will be hundreds in every community seeking light on the law, and help in executing their returns. My own and every other collection district in the nation will be divided into districts, with the county as the unit, and a government officer informed in income tax assigned to each district. He will spend hardly less than a week in each county, and in some counties a longer time, very likely in the courthouse at the county seat town. In cities where there are collectors' branch offices he will be there, and in other cities possibly at the city hall. My office will in due time advise postmasters and bankers and send out notices to the newspapers stating when the officer will be in each county. It will be unnecessary for prospective taxpayers to ask my office for forms on which to make returns. The officer who visits their county will have them.

"It may be stated as a matter of general information that 'net income' is the remainder after subtracting expenses from gross income. Personal, family or living expense is not expense in the meaning of the law, the exemption being allowed to cover such expenses.

"The new exemptions of $1,000 and $2,000 will add tens of thousands to the number of income tax payers in this district, inasmuch as practically every farmer, merchant, tradesman, professional man and salary worker and a great many wage workers will be required to make return and pay tax.

"The law makes it the duty of the taxpayer to seek out the collector. Many people assume that if an income tax form is not sent, or a government officer does not call, they are relieved from making reports. This is decidedly in error. It is the other way round. The taxpayer has to go to the government, and if he doesn't within the time prescribed, he is a violator of the law and the government will go to him with its penalties."

Colorado Crop Production

(Prepared by the Colorado State Board of Immigration)

Colorado's Products for 1917

Agricultural	$140,000,000
Mining	80,000,000
Manufacturing	160,000,000
Livestock	80,000,000
Dairying	11,000,000
Poultry	7,000,000
Miscellaneous	7,000,000
	$485,000,000
Less deductions	35,000,000
Ned added wealth	$450,000,000

Within the last twelve months Colorado has added to the wealth of the nation no less than $450,000,000. Her gross production for the period has been $485,000,000, according to carefully computed tables, and that amount less deductions for duplications in the matter of agricultural products fed to livestock, agricultural products used in the production of manufactured products, etc., leaves a net production of $450,000,000, or nearly half a billion dollars.

The year has been fortunate for almost every industry save for the high prices of stock feed, a general shortage of labor and, in some instances, the lack of adequate transportation facilities. The state during the year has gained nearly 50 per cent over its total production for 1916.

Agriculture alone increased 60 per cent over its 1916 total, while the average increase for the United States was 30 per cent. The crops grown in the state are valued at $140,000,000, compared with a little more than $50,000,000, as shown by the last United States census, taken in 1909. Hay ranks first in the state's crops, with a total acreage of 1,420,000 acres, and a production of 2,691,000 tons, including native and cultivated grasses, worth in the aggregate $42,500,000.

Wheat and corn crops follow hay in values and are followed in turn by beets, oats, potatoes and beans, in the order named. The chief feature of the agricultural season, aside from prevailing high prices, large acreages and good productivity, is the sudden rise of the bean as one of the state's leading crops. In five years it has grown in value from $100,000 to $5,500,000, the value of this year's crop.

The fruit production of the state is estimated at about $6,150,000, the larger part being peaches and apples.

In spite of the exceptionally high prices prevailing for all kinds of stock feed, it is estimated that $65,000,000 worth of livestock was sold for butchering during the year and that the sale of feeders amounted to about $80,000,000.

Dairy products have been less seriously affected, owing to the establishment of creameries and condenseries, furnishing a steady market easily adjustable to increases in the cost of production. The value of dairy products for the year will be approximately $11,000,000. Poultry and eggs, aside from high feed costs, have offered a tempting field, as selling prices have been uniformly high and the demand greater than the supply. Colorado is still short of supplying her own needs by at least $3,000,000 per year.

Immigration into the state during the past year has been larger than for any previous year since 1910, more than 4,000,000 acres of government land having been homesteaded during the year. It is now considered safe to say that the total population of the state is in excess of 1,000,000. The records of the State Board of Immigration show that hundreds of families have come from other states to establish their homes in Colorado and that hundreds of thousands of acres of land never cultivated before have been farmed this year.

Lump on Calf's Leg

I have a Jersey calf, a little past three months old, that has a lump growing on her right leg, just a little above the knee joint. It is at the outer part of leg and seems to hang back, has been there about two months and is getting larger. I have lanced it twice and nothing but black blood comes from it. What is it and what can be done for it?—J. L., Ordway, Colo.

This is probably a blood tumor (hematoma) or may be of a warty nature. Since it is growing larger it should be removed surgically at once. It will be better to employ a veterinarian since there is danger of excessive hemorrhage in these cases.—G. H. G.

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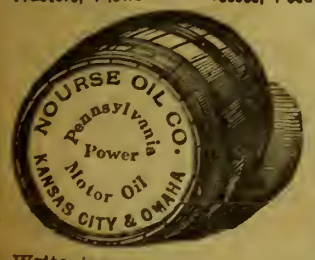

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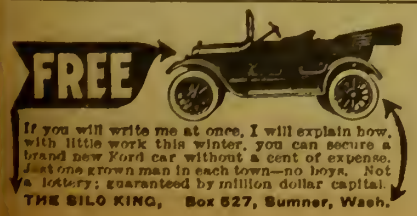

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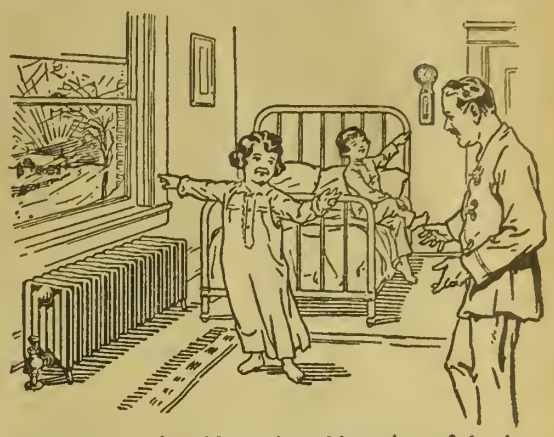

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This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died.—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

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We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

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Western Farm Life

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What's the Matter With Beans?

What is the matter with the pinto bean market? Why should this valuable article of food be forced down to 5½ cents to the grower at Colorado shipping points, while retailers in Denver are asking 10 and 12½ cents a pound? There is something radically wrong in a situation that permits the discouragement of farmers in growing a crop badly needed by the public and the army. This is a question that needs investigation and remedying by the United States Food Administration.

At this date (Dec. 22) navy beans were quoted $12.65 per cwt. for choice hand picked, which was 5 cents a pound more than shipper's price for choice re-cleaned pintos at Colorado points. This difference is out of all reason.

Colorado produced 90,000,000 pounds of pinto beans in 1917 at the urgent solicitation of the United States Department of Agriculture and the State War Council. Our farmers were promised a favorable market and they did not spare expense in buying seed which cost them anywhere from 10 to 20 cents a pound and in breaking new ground and caring for an immense additional acreage. They harvested their bean crop with high-priced labor. They are trying to get the beans threshed; perhaps half of them are yet waiting, but there are millions of pounds in the sack ready for marketing with no movement to speak of, because of a disposition, from some unknown and undefined quarter, to hammer the producer's price to the bottom, and at the same time keep the consumer's price 100 per cent higher.

We have been unable to get any satisfactory explanation of this condition from local sources; nothing except a confused jumble of remarks about car shortage, mysterious Manchurian beans and the like. At the same time there has been no cessation in the cry for more food for the army and for our allies. Every sack of sugar made by a powerful combination of manufac[illegible] very sack of flour sold b[illegible] powerful group of [illegible] at a set figure [illegible] to all concerned. [illegible], which do not need to be [illegible]factured, but are ready for cooking when they come from the farm, are being practically forced out of crop consideration for 1918.

The time between now and spring is short and unless there is a decided change in the market within the next thirty days the acreage of pinto beans, a compact, nutritive, palatable and easily handled war food, will be cut in half in Colorado and New Mexico.

Western Farm Life Prize

Among all the agencies working for the advancement of agriculture in America none is so certain of permanent results as the boys' and girls' club work. Activities among adult farmers that seek to help them with problems of crop production, marketing and organization are of great immediate importance and the response of the farmers to these efforts, originating with the Department of Agriculture, has been splendid. But this work after all cannot make up for the agricultural training that the farmer should have had in his youth.

The boys' and girls' club work takes up the agricultural training of the youth at the right time and in the proper place—the rural school. It is the one and only redeeming feature of our rural district school system; the one line of endeavor that will tie the boys and girls to the farm because their interest in farm life has been aroused and they have been taught to intelligently apply that interest.

Some years ago Colorado Agricultural college established a Department of Rural Education under the direction of Prof. C. G. Sargent. This department has for its object the betterment of educational conditions in the country districts. One line of work is school consolidation; the other is organization of boys' and girls' agricultural clubs, the latter work being done in cooperation with the United States Department of Agriculture. Progress is being made in both lines.

In order to encourage the work among the boys and girls WESTERN FARM LIFE will donate one of the club prizes which are to be awarded at the National Western Stock Show this month. We have chosen the pig clubs this year. The club making the best showing on the year's work will receive a well-chosen library of twelve standard agricultural books, which are to be club property, and are to remain in the rural school from which the winning club was organized. We are aware that a prize of this kind is not taken home for enjoyment by an individual winner, but that it is community property; a legacy that the winners may leave to those who follow them after they have finished their studies in the rural graded or high school. The little library in this way follows out the club ideal of service. The books selected are:

Farmers of Forty Centuries, by King.
Animal Husbandry for Schools, by Merritt W. Harper.
Principles of Agriculture, by Liberty H. Bailey.
The Soil, by King.
Farm Machinery and Farm Motors, by Davidson and Chase.
The State and the Farmer, by Liberty H. Bailey.
Dairy Farming, by Eckles and Warren.
Farm Boys and Girls, by William H. McKeever.
Farm Management, by G. F. Warren.
Dry Farming, by E. R. Parsons.
The Federal Farm Loan System, by Myrick.
The Young Farmer; Some Things He Should Know, by Thos. F. Hunt.

Colorado Farmers' Congress

Call for the ninth annual session of the Colorado Farmers' and Farm Women's Congress, to be held at Fort Collins January 14 to 19 inclusive, has been issued by President David Halls. We had hoped to be able to put before the farmers the complete program in this issue, but that had not yet been prepared at the time of going to press.

One of the new features will be a tractor school, which will be in session the entire week. This school is arranged thru co-operation between the extension service of the college and the department of farm mechanics. Six tractors have been borrowed for use during the school and this will be augmented by eleven gas engines which are a part of the equipment of the farm mechanics department. Every feature of tractor operation and management will be taught and demonstrated and opportunity will be provided for actual practice. A P. Yerkes, an expert in tractors and farm machinery from the United States Department of Agriculture, will lecture one day during the school and give demonstrations.

There will be in attendance at the Congress on the 18th Mr. E. V. Wilcox, an expert in farm management from the Department of Agriculture. Another Washington man expected is T. J. Newbill, assistant in organization of boys' and girls' agricultural clubs, who will deliver an address.

There will be a patriotic meeting on Wednesday evening of Congress week at which Governor Gunter will be one of the speakers.

An especially strong program is being prepared for the women. Among the speakers will be Miss Anna Barrows, a member of the faculty of the New York Teachers College and an author of note on home economics subjects. Another speaker will be Miss Miriam Birdseye, specialist in foods and cooking of the States Relations Service. There will be many other instructive and interesting features for men, women and boys and girls of the farm.

Membership in the congress is made up as follows: Each state, county or local livestock, agricultural and horticultural organization is entitled to the appointment of two delegates; each county is entitled to one delegate appointed by the county commissioners; each woman's rural organization, two delegates selected by its members; the State Grange to appoint three delegates at large and each local Grange to send one delegate; the Farmers' Educational and Cooperative Union of America, three delegates, and each local union one delegate. The Alumni Association of Colorado Agricultural college, three delegates; ten delegates at large to be appointed by the governor.

The executive committee of the congress has the power to add to the list any organization whose purpose is to promote the agricultural interests of the state.

Bodies having the appointive power are urged to send the names of their respective delegates to Secretary H. T. French, Agricultural College, Fort Collins, at the earliest possible date.

Reduced rates are being offered by the railroads for this event and the Stock Show, which is held at Denver the week following the congress. The tentative program follows:

Monday, January 14, 1918

MORNING

Delegates to the Farmers' Congress will present their credentials to Secretary H. T. French at the office of the secretary of the college, main building, before 12 o'clock. All departments of the college will be open to visitors.

12 to 1:30—Lunch.

AFTERNOON

1:30 to 5—General assembly in college auditorium.

Annual Address — President David Halls.

Reports from members of the executive committee.

Executive Committee

Denver District — George McCarroll, Denver.
Plains District—J. J. Evans, Fleming.
Northern District—R. M. Haythorne, Greeley.
Western District—L. M. Rogers, Grand Junction.
Southwestern District — Frank Eldredge, Durango.
San Luis Valley District—D. E. Newcomb, La Jara.
Northwestern District—George Bushyager, Craig.
New Plains District—L. F. Bramier, Burlington.
Arkansas Valley District—H. W. Bowman, Trinidad.

Officers

President—David Halls, Mancos.
First Vice-President — C. L. Hover, Longmont.
Second Vice-President — E. R. Bliss, Greeley.
Secretary-Treasurer — H. T. French, Fort Collins.

Many agricultural and livestock associations are planning to hold their meetings at the college during the sessions of the Farmers' Congress, and there will be many important conferences held during the week. To accommodate these associations and conferences, the entire forenoon will be given over to these meetings. The delegates to the various association meetings and conferences will gather at 1:30 each afternoon for a general session of the congress in the college auditorium. Thus it will be possible for everyone to hear the speakers of the congress and participate in its deliberations.

Developing Bean Market

Excellent service is being given our pinto bean growers by the Agricultural department of the Burlington railway, thru J. B. Lamson, agriculturist at Chicago, and O. H. Liebers, agricultural agent for western lines at Denver. The company has issued a four-page illustrated pamphlet giving a brief resume of the history, quality and uses of the pinto, together with production figures for Colorado and New Mexico. The company offers to send one-pound trial packages and to furnish full information regarding supplies, prices, seed, methods of growing, etc.

A comparative table of nutritive values of common foods with pintos is given, showing one pound of pintos at 12 cents to be equal to the following:

		Cents
4.4	pounds raw potatoes at 3½ cents per pound.....	15.44
1.63	pounds sirloin steak at 30 cents per pound.....	45.64
2.01	pounds round steak at 23 cents per pound.....	46.23
18.6	eggs at 35 cents per dozen..	54.25
5.2	pounds or 5 pints whole milk at 5 cents per pint.....	25.00

Mr. Lamson has succeeded in getting Chicago restaurants and bakeries to try the pintos; similar work has been done from Omaha westward by Mr. Liebers. It is announced, also, that Sears Roebuck & Company and Montgomery Ward will list pinto beans in their spring catalogs, which means large orders from the Mississippi valley rural territory served by these mail order houses. Practical market development of this kind will be of great benefit to our bean growers.

✦ ✦ ✦

Farmers and the Seed Law

Answer to G. A. R., Arriba, Colo.:

Western Farm Life has forwarded to me the following inquiry from you:

"Have we farmers any right to sell our neighbors any seed corn without putting a tag on the corn, the kind, the grade, etc.?"

I am enclosing a copy of "The Colorado Seed Act." This bulletin contains the seed act printed in full. It also contains an explanation of some of its provisions, and sets forth other matters of direct interest to farmers.

The pure seed law is purely regulatory. It does not prohibit the sale of any kind or quality of agricultural seeds. It attempts to place the sale of seeds on a basis of quality which is expressed in terms of purity and germination, and provide a means by which every purchaser of field seed may know what he is buying. All field seed sold for seeding purposes in quantities of five pounds or more must bear a label. No particular form of label or tag is required. The enclosed label is suggested; it gives you the information which must be attached to each lot of seed.

If seed is not labeled in the regular way as just indicated, it must bear a label bearing the following: "Not tested seed" or "Not clean seed." However, this method of labeling is to be discouraged. It will in some instances, however, facilitate sales between farmers.

The question arises, How is the farmer to get the data to label his seed in the regular way? Send a fair sample to the Colorado Seed Laboratory, Fort Collins. This laboratory will test and analyze the sample free of charge, and mail back a report promptly. This report will give the information required on the label. Of course, this laboratory cannot guarantee that the sample tested is representative of the whole lot from which it was taken. Its report is only on the sample.

Any seller of seed for seeding purposes, whether he be farmer, farmers' association, elevator, mill, seedsman or any other person or firm engaged in selling agricultural seeds, comes under the provisions of this act, and shall be liable for any violations.

If a seedsman is required to label, there is no justice in exempting the farmer. It is not that we have lost faith in our neighbor or our seed dealer when we insist upon his labeling his seed, but because we realize that he, like ourselves, has no way of knowing the quality of seed except by a careful test and analysis. Our neighbor and our seedsman want to sell and offer for sale nothing but the best of seed, and the only way they can be sure of the quality is to submit it to a rigid test, and abide by that test.

Seed does not need to be labeled when it is being shipped to a market to be cleaned or graded; or when held in storage for the purpose of being cleaned; or when held or sold for food purposes.—W. W. Robbins, Botanist, Colorado State Experiment Station.

Change in Subscription Price

The subscription price of Western Farm Life, commencing Jan. 1, will be two years for $1.00 instead of one year. No traveling agents will be employed. The special bargain prices made during the month of December and which proved so popular has established the fact that our subscribers prefer to save the agents' commission and mail their own renewals to Western Farm Life. We are satisfied that this change is better for each of us, so don't neglect to send in your renewal promptly.

Comment by Farmer Putnam

HAS A GOOD TIME EATING WAR DINNER WITH THE FOLKS AT LONGMONT

SAY folks if you-all could-a been with me to the Longmont war dinner you'd feel like fightin' the Kaiser. I never knowed a feller could git so much satisfaction from one of them thar "less" meals. Maybe the company we was in had some thin' to do with it, but I sure enjoyed my grub. It ain't often I git offen my feed. Usually I kin stow away a purty fair cargo of vittles, but I got used to beef or pork roasts and such and I kind-a felt a little ticklish about tacklin' a war dinner after gittin' a taste of the bitin' fresh air that was movin' down from Long's peak that day. 'Lias Ammons was with me and I sez to him and J. E. Walker, a friend of mine we met on the train:

"Say boys I don't believe I kin go up ag'in any 35 cent Hoover feed today. I got to be powerful careful not to offend my appetite. It's one of the best friends I got and I wouldn't hurt it fur the world, so I just reckon I'll git excused about noon and go down to the Imperial fur my dinner."

The Governor, (ex), slapped me on the back and sez:

"Don't be a slacker Put. You stay fur the grub or I'll tell Josephine on you when we git back home."

Well that argumint was enough so I decided to try the dinner. Before we git to that I want to say a few words about my old friend Walker. He runs the county farm up to Fort Collins now and he's been more or less of a boss around the courthouse, the sheriff's office and other public places fur some ten years in Larimer county and is still popular. When a man's been in office so long as that and ain't rich yet and is still popular you kin make up your mind to two things; he's honest and efficient and J. E. is both of them things. He's got a nice flock of hens on the county farm and every now and then on meatless day he kills a chicken, but wimmin will hang onto a ten cent and some Tuesday I reckon I'll drop in piece like a sandbur to a homesteader's on the folks and have dinner with 'em, sock, but when some feller comes to the hence them complimentary remarks front door with a pictur' enlargin' herewith recorded. Do you git me scheme or a hank of real Irish lace from J. E.? West Colfax, they don't hesitate to

Well returnin' to the feed at Long- spend two or three dollars. All a man mont: They did have a corn show and wants fur his money is a little excite- some speeches, but them things is ment. A woman will part with it only minor matters that the editor kin if she thinks she's gittin' somethin' fur write about; just now my loyalty to the nothin'.

nation demands that I pay some attention to food conversation.

Let's see: we had cereal loaf, baked potatoes, stewed hominy, corn bread, corn muffins, home made war bread, Indian corn pudding, coffee, milk, butter and honey. They wasn't no wheat, no meat nur no sugar. They had nice little pitchers of honey on the table fur the coffee and I conserved a lot of it, usin' it on my corn puddin', on the war bread and straight. I believe in conservation.

That war bread hit the spot. Now that I've had a taste of it I'm sorry that the war didn't break out long ago. I found out it was real war bread when I got home. I bought a loaf of it at the auction sale they held after dinner and it cost me fifty cents. When I come home and told Josephine what I paid fur it she had the tantrums. She refused to eat it.

"The idear," she sez, "of payin' fifty cents fur a loaf of somethin' that looks more like a brickbat than bread."

"Look here woman," sez I, "you withdraw them unpatriotic remarks; this here is war bread and I don't want you to insult the flag."

"Insult the flag," she hollered, "why you pore idjit; you got your patriotism so mixed up with your grub that you salute a square meal and think you're fightin' fur your country. You make me plumb tired with your conservation idears—you and the rest of them fellers that writes fur the farm papers. You preach that the war is got to be won on food and tnen you spend all your time devisin' ways and means of cookin' up fancy new dishes fur yourselves at home and send the common grub to the boys in the trenches. Fine patriots you are—food patriots. I don't see you savin' anything fur the alleys that you like to eat yourself."

You cain't argy with that woman, so I kept on chewin' my war bread like a faithful soldier. She got sorer then ever because I wouldn't talk back and she sez:

"Tom, you know what you remind me of?"

"I don't care if I remind you of a gyraff pickin' cranberries offen a mulberry bush in Timbuctoo," sez I.

"Fifty cents fur a measly loaf of war bread; why Tom, you got less brains then a woodtick and poorer judgment in pickin' a meal."

I tried to explain that I bought the bread at auction and give the money to a good cause, but she wouldn't believe it. Wimmin is funny critters. Men git together and have fun just throwin' money away at a sale or a turkey shoot

I guess the Lord made us different and me and Josephine gits along a lot better because we don't agree. I couldn't make half so much out of my writin' if she didn't land on me with some inspiration onct in a while and she couldn't buy that new coat if she hadn't a riled me about that war bread and give me a chanct to turn the fuss into literature. This is a funny world. Old Clark Potter used to say that and we'd both take a good laugh at the world over it.

I did have a nice time among them Longmont folks. They allus make me feel so welcome that I like to go back often.

I like the way they pull together. I sat down in the meetin' with Albert Dakan. He's a downright radical on everything and I'm from Missouri, so naturally conservative. Well me and him had a long talk about conditions and we didn't agree on nuthin' but we didn't have no fuss about it. I looked around and seen farmers that was like Dakan, allus a stirrin' up things and keepin' 'em riley, and others that was feelin' satisfied with the money they was makin' and believin' this was a

Turn to Page 13

MYERS SPRAY PUMPS KILL THE PESTS THAT EAT YOUR PROFITS

SAVE YOUR CROPS BY SPRAYING MYERS WAY

Your Uncle Samuel Says:—"Conserve all food so that our Sammies at the front can be abundantly fed, and the folks at home still have plenty."

This message is of such importance to owners of orchards and fruit bearing trees, vines and bushes, that Fruit Growing Associations, Farmers' Clubs, Grange and other State and National Organizations, are urging and insisting that each member take an active part in an earnest endeavor to increase and improve his fruit and vegetable crops for 1918, and thus place within easy reach of the general public such fruits, berries, and vegetables for preserving, canning, drying and bin storage, as will take the place of grains and other food supplies that are easier to ship and transport.

MYERS

Says—"Good Gospel—Follow it to the letter." It will pay—Pay in the satisfaction of knowing you are doing your part—Pay in a more material way through larger crops and better prices. So prune your trees and spray them MYERS WAY with a Myers Knapsack, Bucket, Barrel or Power Spray Pump or complete Spray Outfit. You will know your spraying work will be done right, for Myers Spray Pumps—All Styles—All Sizes—are tried and proven. They get spraying results many times where others have failed by killing the numerous pests which attack your trees and eat your profits.

Write for late catalog—54 pages—devoted to MYERS SPRAY PUMPS, NOZZLES, HOSE and ACCESSORIES for Spraying, Painting and Disinfecting—and be ready for action when Spraying Time comes around.

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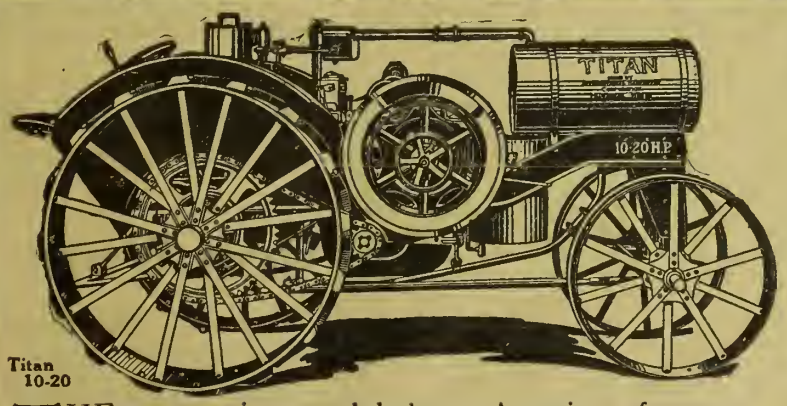
No. 140 ORANGE ST. ASHLAND, OHIO.



Titan 10-20

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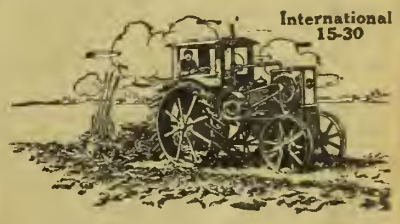

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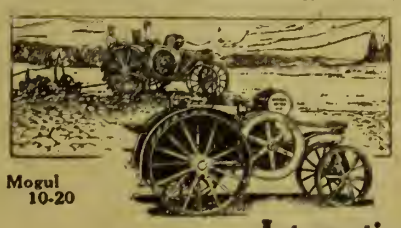

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On this basis we solicit your orders for **Mogul 10-20, Titan 10-20** and **International 15-30** kerosene tractors.

It will be difficult for us to furnish your tractor as soon as you want it. The demand is hard to keep up with and shipping facilities are very much handicapped. Send for our catalogues now, make your decision, and send in your order as soon as you can if you want an International Harvester guaranteed kerosene tractor in time for the spring plowing.

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Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Some Notes from the International Stock Show

It is some years since the writer has visited the International, and points which struck me particularly were the differences which have appeared in some classes of stock between my previous visits and this one. I was particularly interested in watching the beef cattle judging.

The Hereford show was probably the strongest that has ever appeared in this country. I do not think there has been heretofore a show which has had practically all of the leading herds from all sections of this country. The classes were very uniform in appearance, and this is one characteristic of the Hereford which has helped its popularity in our range country. In most cases it took very careful study to make a safe guess concerning the animal that would stand at the top, but in the case of aged bulls, Ardmore appeared to be an easy winner. He stood out as a remarkable bull in a collection of wonderful individuals. He is a bull of good bone, heavy fleshing and wonderful smoothness. He was at one time owned by Dr. DeWitt of Parshall, Colo., one of our own Colorado breeders. The firm of Fontaine & Weedin of Eads, Colo., has two half brothers of Ardmore in their herds. Dr. DeWitt made a very good showing with his well-known herd.

One of the chief points of interest in the Shorthorn judging was the class of yearling bulls. The Saturday before the show I attended the Harding sale at Waukesha, and saw Anoka Champion sell thru the ring for $17,000, the highest price ever paid for a bull of that age in this country. He was regarded as one of the greatest calves that has ever been produced in America. When he appeared in the show ring, however, he was forced to take second place under a bull from Minnesota, sired by Cornerstone. The winner was entitled to the place, in the opinion of the ringside observers, showing that all the good prospects in a breed cannot be tied up in the hide of one animal. In two-year-old Shorthorns a remarkably fine imported bull was shown, but was forced to take second under a bull of more finish. Either one might have won without criticism on the part of the observing breeders. The grand champion Shorthorn was Maxwalton Commander, owned by Gillespie of Oklahoma, a wonderful, smooth, short-legged bull of commanding appearance.

Milking Shorthorns were exhibited in the ring at the same time as the beef Shorthorns, and showed a more uniform type than they have shown in years past. At the start of the milking Shorthorn boom the tendency was to breed on the basis of milking power only, and as a consequence we found all sorts of animals passing as milking Shorthorns. Now the breeder is beginning to come to a definite type, altho there is still room for considerable advancement in that direction. The question of the place of the milking Shorthorn is an ever live one. We believe there is a place for them in Colorado, particularly on dry lands where free grazing is available, adjoining the farms. The value of a good steer or heifer calf will go far to offset a considerable reduction in milk production, in view of the fact that the summer feed for both the cow and calf is free under those conditions.

Warnock & Sons of Loveland, Colo., were eighth in the aged bull class with Model Type. They also were eleventh and seventeenth in the futurity junior bull calf class, and fourth and twelfth in the futurity junior heifer class. Allen Cattle company of Colorado Springs was eighth as young herd, and tenth as calf herd. In the futurity they won thirteenth and fourteenth in the senior bull calf class and eighteenth on junior bull calf. The Maxwell-Miller Cattle company of Steamboat Springs were tenth on two-year-old heifer and fifth on graded herd.

In draft horses I think the most noticeable thing is the tendency to increase the length of legs in the Belgian breed; also, I think this occurs somewhat among the Percherons. A draft horse with short legs can make a harder pull for a moment or two, or for a short distance, than a long-legged horse, but for most kinds of work where distance has to be covered, the longer legged horse has the advantage because of a free stride and ability to cover ground with greater ease. The Belgian, to my notion, is a better horse by far than he was a few years ago.

The breeders of swine were interested as usual in the grand champion boar. This year it was won by a Berkshire. The Berkshire is undoubtedly as good a hog in many characteristics as any breed we have. Of late years eastern breeders who determine the policy of the breed have bred particularly for prettiness of outline and quality, and have overlooked the increasingly strong demand of practical farmers for a large, quick-growing hog. As a result the market for the Berkshire has been practically ruined in the West, and I am told it is true in sections farther east. Unless Berkshire breeders of prominence see a light and grow a good practical hog, they will find this breed thrown in the discard. While at the Nebraska State Fair this fall I saw only two or three herds of Berkshires, while the barns were full of Poland-Chinas, Duroc-Jerseys and Hampshires.

The exhibit of feeder steers was very small at Chicago. The Western Stock Show at Denver has the International so far outclassed on its feeder steer show that there is no comparison, altho we admit that the International surpasses us in fat classes. The grand champion carload of feeders was a load of Angus calves bred by Harrison of Roggen, Colo., and the reserve grand champion a load of Shorthorn calves bred by Al Neale of Montrose.

It seems very doubtful at the present writing whether either the International or the Western Stock Show will be held another year. The government looks upon them as having a high educational value, and has asked that they be continued, but many breeders, and especially those who have sons fighting in France, feel that for a year or two we could do without fitting so many animals at the enormous grain cost entailed. In view of this everyone who can get away should attend the Western this year in order to secure as great a knowledge as possible of approved types of livestock that are being produced today.—G. E. M.

Dehorn the Dairy Heifer

There are two methods of dehorning dairy animals. One of these which is widely practiced is to allow the horns to grow until the animal is fairly mature and then cut them off with special dehorning clippers. This method removes the horn, but it is a painful and bloody operation. The other method is to prevent the horns from developing.

The calves should be treated when they are from five to ten days old or when the horns are just beginning to show as small buttons and before they break thru the skin. The hair should be clipped away from this part of the head with a pair of shears. As soon as the skin is thus made visible it should be broken with a sharp instrument, directly over the center of the appearing horn. A deep cut should not be made. As soon as the skin is

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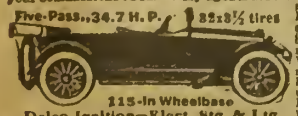
Drive and demonstrate the Bush Car. Pay for it out of your commissions on sales. My agents are making money. Shipments are prompt. Bush Cars guaranteed or money back. 1918 models ready. Write at once for my 48-page catalog and all particulars. Address J. H. Bush, Pres. Dept. 1-H



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An Important Message To Every Cow Owner

There was never a time in the history of the world when the saving of every ounce of butter-fat and every particle of effort and time was so important as now.

There was never a time when the use of a late improved De Laval Cream Separator meant so much to every cow owner.

This is true whether you are using no separator, some inferior separator, or even an old style De Laval machine.

Fortunately it happens to be not only a matter of patriotic duty but at the same time one of dollars-and-cents advantage as well.

The New Type De Laval Cream Separator skims cleaner and produces a better quality of cream than any other separator or skimming method.

Likewise, by reason of its easier turning, easier cleaning, greater capacity, simplicity and durability, it saves time and labor over any other machine or method.

Moreover, the use of a De Laval Cream Separator is better than any other way of utilizing milk because it keeps the valuable skim-milk on the farm.

Nor should the installation of an improved De Laval machine be delayed a single day. It begins saving the first day it is put in, and will likely have paid for itself by spring.

We guarantee all this to be true—but the better way is to demonstrate it in your own dairy to your own satisfaction.

That every De Laval agent is glad of the opportunity to do—without any obligation on your part unless satisfied that every claim made is fulfilled.

There are local De Laval agents almost everywhere. If you don't know the nearest one simply address either of the main De Laval offices as below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago

BUY YOUR

Blackleg Vaccine, Cattle and Sheep Dips, Branding Liquid, Cotton Seed Cake and Meal, Range Salt, from

Davis Watkins Dairymen's Mfg. Co.

Successors to

THE L. A. WATKINS MDSE. CO.

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Hogs Grind Grain

SAVES GRAIN SAVES LABOR

Grinder and Self-Feeder

With the Hog Motor the Hogs can grind their own grain while feeding themselves and save 25% of the grain. A 40-pound pig can operate it. It will feed 80 hogs on full feed.

60 Days Trial Without Risk

We positively guarantee to refund all money and pay freight both ways if you are not absolutely satisfied.

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HOG MOTOR COMPANY

727 Andrus Bldg., Minneapolis, Minn.

broken a stick of caustic potash should be rubbed on the horn until the skin is removed over an area slightly less than the size of a dime. The caustic can be purchased in small white sticks about the size of a pencil. One end should be wrapped with paper or cloth to protect the fingers. Rubbing should continue over the surface until it begins to turn white. Too much rubbing may give bad results. As soon as this is complete it is well to grease around the treated area with vaseline.

It is usually better to use the caustic in a dry form rather than to use it wet, because when too much moisture is present it may run down into the calf's eyes and cause injury.

The caustic should be kept in an air-tight bottle because in the presence of air it becomes wet and sticky and is difficult to handle. With a little experience one can perform this operation in about five minutes and horns will never develop, says W. W. Swett of the University of Missouri College of Agriculture. In case it is not properly done, short spurs will develop. These may be clipped off after a year or two with very little trouble or injury to the animal.

Changing Name of Holsteins

That the name of the Holstein dairy breed should be changed because of its Germanic origin is the claim made by dairy farmers on the Pacific coast. A writer in the Rural World suggests "American Beauty" as a fitting substitute. His suggestion will hardly find echo among breeders of the black and white cattle. As a matter of history it is very doubtful whether the progenitors of the American Holsteins came from the Duchy of Holstein, but if they did it may be well to remember that this little dukedom was at that time a part of Denmark and that it was literally stolen from Denmark by Prussia in recent years.

The cattle that we in America know as Holstein-Friesian have been bred in the country along the eastern border of the North sea for many hundreds of years—some writers claim as long as 2,000 years. It would be difficult—yes, impossible—to follow the fluctuations of the political fortunes of the little dukedoms, principalities and kingdoms under which the lowlands have flourished or suffered all these centuries. That the breed has steadily advanced under all these fluctuations is really the important thing. This improvement has been due to Hollanders and to some extent Danes and not to Germans, altho the breed is very popular thruout northern Germany.

As to the etymology of the word Holstein, that is a matter that must be left to the research of some philologist. If any change is deemed necessary it seems to us the appropriate term would be Holland cattle, adopting a term often used among breeders, that is not subject to misinterpretation and that expresses the breed name in the English language and gives the credit to the nationality that has done most to improve the breed.

Quitting the Hog Game

Editor Western Farm Life:

Wish to give you a few figures on my experiences with hog raising in northeastern Colorado of late years, and especially of the last year. I have just marketed some hogs at Haxtum at $15 per hundred. These hogs I pastured on alfalfa during the summer with a scant allowance of corn for which I paid $2.15 per bushel. Now I have fattened them on new corn at $1.25 per bushel. After summing up all these expenses and the alfalfa pasture at $15 per ton of hay, there is nothing left for my work and time I have put in. I have raised hogs to some extent for the last twelve years and only two years out of these twelve I made a little money above expenses. I am going to quit the game.—Fred Greve, Red Lion, Colo., Dec. 18, 1917.

McClenahan's Herd Sire

A. M. McClenahan, the well known Jersey breeder of Weld county, had reason to congratulate himself on the ownership of Majesty Oxford Combination, his herd sire, when the announcement came from the National Dairy Show at Columbus that Gamboge Vellum Majesty had been awarded the grand championship in the Jersey bull class. Mr. McClenahan's herd sire is a half brother of the champion. The champion is owned by M. D. Munn, president of the American Jersey Cattle club. The McClenahan herd will be shown at the National Western this month as usual.

Ammons Gets More Herefords

The Lowell Pure Bred Cattle company at the Denver yards, well-known dealers in registered and pure bred breeding cattle, have just delivered to Hon. E. M. Ammons for his Middle Park Land & Live Stock company three carloads of choice unregistered pure bred Hereford cows and heifers. These cows and heifers attracted considerable attention at the yards, and Governor Ammons is to be congratulated upon securing them to add to his already choice herd of Hereford cattle.—Record-Stockman.

From Idaho Agents

Reports received by H. W. Hochbaum, state leader of county agriculturists for Idaho, include the following practical pointers which are of benefit to farmers in many sections of the West:

J. O. Ellsworth, agent Gooding county:

The community canning plant, which was fostered by the farm bureau and the county commissioners, this season canned 45,000 cans of fruit and vegetables for residents of Gooding county. This represents a tremendous bit of saving which cannot be given too much publicity, for it should be an example to many communities of the state. The food canned was the surplus from home gardens and orchards, which ordinarily goes to waste. The cost of the plant is so small, the product so excellent and the results so generally appreciated, that as a war-time measure this example of real conservation is outstanding. Present plans call for an enlargement of the plant next year that a minimum of 200,000 cans may be put up.

R. R. Lancaster, agent Minidoka county:

Unusually good results have been obtained in the production of white clover by the farm bureau demonstrators, one grower having threshed out 11½ bushels per acre, another 10 bushels. Especial interest is current now because of the trials of the Giant White or Ladino clover, commonly supposed not to cause bloat when pastured. Robert McClain of Eden, Idaho, says: "I never saw anything that would beat it for pasture. It positively will not bloat any cows. I have one cow very subject to bloat, but she does not bloat on Ladino clover under any circumstances." Ernest Paul of Eden also is positive that the clover will not bloat under any circumstances, for he grazes his sheep in all manner of irregularity without evil results.

Gypsum Will Redeem the San Luis Valley Lands

Continued from Page 4

tion is a good system. A few are convinced that it is not.

✦ ✦ ✦

Gypsum Will Convert "Black Alkali" Into Harmless "White Alkali"

It is well known that gypsum, sulfate of lime, will convert this "black alkali" into "white alkali," which is so good as harmless compared with the black. By the application of this gypsum we can mitigate the evil, but this will be a difficult problem if we continue the practice of sub-irrigation which brings the "black alkali" up; it will be necessary to change the system and wash the "black alkali" with the gypsum down. The people have found out that, at the present time, about the only thing they can do to make any headway against the present conditions is to dike and flood the land. There is usually space enough between the permanent water-plane and the surface to permit them to better the conditions in this way by carrying the "black alkali" into the deeper portions of the land, but they do not destroy it or even permanently remove it.

The addition of a sufficient amount of gypsum, theoretically, 1¾ pounds for every pound of "black alkali" in the soil, practically about 9 pounds of gypsum to one of "black alkali," will change it into "white alkali" and then the land will not get hard for 4 inches on the surface and the crops will grow again. The application of the water must be to the surface by means of furrows or by flooding.

The right medicine always at the right time

You Can Have Hogs Like These

Your hogs are in constant danger from worms, cholera, pneumonia, digestive troubles; germs in the air, in the dust, in the grass; danger in new corn, change of seasons, contact with other hogs, etc.

Take no chances with your hogs this year. They're too valuable. A few cents per hog invested in Carey-ized Stock Tonic Brick may save you hundreds of dollars.

CAREY-IZED STOCK TONIC BRICK

Is composed of powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbonized peet, charcoal, quassia and pure dairy salt—all properly proportioned to insure a complete health prescription. Solid brick form makes it easy and economical—preserves its full medicinal strength to the last ounce.

Keep it before your hogs all the time. Let them doctor themselves. Watch them thrive and finish for market better and in less time at less feed cost.

Equally good for hogs, cattle, sheep and horses. Supplies needed medicine, and salts animals at the same time.

Positively Guaranteed to Satisfy You

We know Carey-ized Stock Tonic Brick to be and do all we claim for it, and take all the chances of a 30-day trial by you in your own feed lot. We guarantee you will be satisfied with the result or *refund all your money.*

Order a dozen bricks from your dealer. If he does not handle it, write us his name and we will see that you are supplied.

Don't delay. Fill out and mail us the coupon today for valuable booklet on "Making Live Stock Pay" and full information on Carey-ized Stock Tonic Brick.

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National Western Stock Show

Denver, January 19-26, 1918

PUBLIC SALES OF REGISTERED CATTLE

ABERDEEN ANGUS CATTLE

Wednesday, January 23

9:00 A. M.—Stock Show Arena. Forty Head of Selected Registered Aberdeen Angus Bulls and Heifers. This sale is under the direction of the American Aberdeen-Angus Breeders' Association and the offerings are of selected Western breeding. For catalog and other information, address Charles Gray, Secretary, Union Stock Yards, Chicago.

HEREFORD CATTLE

Thursday, January 24

9:00 A. M.—Stock Show Arena. Sixty Head Choice Selected Registered Hereford Breeding Bulls and Heifers. These are selected from the leading herds of the West and are offered by the Western Hereford Breeders' Association under the auspices of the American Hereford Breeders' Association. For catalog address John Painter, Secretary, Roggan, Colo.; R. J. Kinzer, Secretary, Baltimore Avenue, Kansas City, Mo.

SHORTHORN CATTLE

Friday, January 25

9:00 A. M. —Stock Show Arena. Fifty Head Selected Shorthorn Breeding Cattle will be offered by the American Shorthorn Cattle Breeders' Association. These are all choice selected registered cattle from the best herds in the country. For catalog apply to F. W. Harding, Secretary, 17 Exchange Avenue, Chicago, Ill.

HOLSTEIN-FRESIAN CATTLE

Friday, January 25

1:00 P. M.—Stock Show Arena. The Colorado Holstein-Fresian Association will offer forty head of choice registered cows and young bulls at public sale. These are all selected animals and the sale is approved by the National Association. For catalog aplpy to C. W. Hall, care Stock Show, Denver.

These Public Sales are all authorized by the Western Stock Show Association and there will be no other public sales permitted during Stock Show Week. Information can be had from the Secretary of the Show.

Reduced Rates on All Railroads

The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

A WAY TO A HAPPY NEW YEAR

To leave the old with a burst of song,
To recall the right and forgive the wrong,
To forget the thing that binds you fast,
To the vain regrets of the year that's past;
To have strength to let go your hold
On the not worth while of the days grown old.

To dare to go forth with a purpose true,
To the unknown task of the year that's new,
To help your brother along the road,
To do his work and lift his load,
To add your gift to the world's good cheer,
Is to have and to give a glad New Year.

—Robert Brewster Beattie.

A Message for 1918

Let the Old Year pass away with its burden of sorrows and joys and as we bury with it all mistakes and enmities, even its prejudices which have clouded many of the otherwise happy hours of our lives; may we profit by its lessons, and then it will be possible to meet the grave responsibilities of the New Year with a feeling of trust and even gladness.

Welcome the message as it comes thru the door swinging slowly open as:

On the threshold of the year,
E'en the snow-wreaths disappear,
Half in hope and half in fear
Waits the heart?

When the coming days are sweet,
And the buds blow round our feet,
In the pathway who will meet?
Who will part?

On the threshold of the year,
See! The Lord is standing near,
And the heart forgets the fear,
In His smile.

Trembling heart! He speaks to thee,
I myself thy guide will be—
All the way is known to me
Mile by mile.

Only trust thy changeless Friend,
If on me thou will depend
What awaits thee in the end?
Paradise!

With the above message, the author of which the editor does not know, may we give thee a hearty New Year's greeting.

Our Work

In these columns we would not be so progressive as to leave the busy reader out of breath; but we would be sympathetic in these stressed times, sympathetic and understanding; a personal friend. We all have our own personal and peculiar work to do, the greater part of which is to make burdens lighter, hearts happier, home more truly homelike, while trying to keep our readers informed as to what is best to be done, how to do it the best way, and how it has been done by many in the most practical and economical way. Give us your hearty co-operation.

Farm Women's Congress

Read the announcement on another page of this issue and decide at once to join in the most needed, most inspiring conference of Farm Women that has yet been held. Come to Fort Collins January 14 to 19 and enjoy an exchange of the good things learned during the past year. Send at least two good delegates from your community.

Are You?

Yes, are you backing up the Food Administration? Thousands upon thousands of pledges have been made and every patriotic woman is doing her best to conserve wheat, meat, sugar and fat. All know that the supply of proper food in proper quantities on the table and to our soldiers means the winning of the war.

Often is the busy housewife puzzled as to what to buy and what not to buy. The writer has been helped by the following suggestions:

Peanut butter contains the same food material as meat. You will find that one cup each of peanut butter, bread crumbs, water mixed with one egg, a teaspoon of salt and a tablespoon of finely chopped onion or green pepper and baked makes a splendid loaf to serve as the main course for dinner.

Rice or canned hominy made into a tasty casserole dish with dry sausage is a true conservative food that adds delightful variety to the menu.

Canned hominy is a substitute for potatoes or rice and for some uses of wheat flour. It is rich in starch and contains some protein, fat and mineral matter. Combined with a little meat, fish or egg and properly seasoned, it makes a satisfying meal.

A splendid white war bread recipe calling for hominy has been made by a prominent club woman. The recipe has been indorsed by the Council of National Defense.

Further in eliminating any waste in meat supply, housewives should buy beef, pig and mutton hearts, liver, kidneys and brains. This will lessen the demand for the ordinary cuts, keeping them steady. The housewife should buy these cuts frozen and thaw them out at home. Cook as soon as thawed.

We Can't Have the Cake and Eat It Too

We Can't Have the Boys in Khaki Win and Be Hungry Too

We cannot produce everything we consume, but what we can produce we should.

This thought must be dominant if Americanism is to prevail against Pan German Militarism.

In that great indispensable food of modern life (SUGAR), Germany is self-sustaining, and independent of all sea borne commerce, and we cannot cut off the supply because the supply is home-grown.

Previous to the War, England's sugar bowl, for the most part, was filled with sugar from Pan-German sugar beet fields.

The French sugar bowl was supplied almost entirely with sugar from her own sugar beet fields before they were destroyed by the Germans.

These two sugar bowls required approximately three million tons to fill thm.

Our own sugar bowl has been filled with sugar from our beet and cane fields on the mainland and from the cane fields of our insular possessions; i. e., Hawaii, Porto Rico and Manila, and about 50 per cent of our total requirements coming from the cane fields of Cuba.

It is obvious, therefore, that to only partially fill the English and French sugar bowls, we must give of the contents of our bowl.

MORAL

AS A WAR MEASURE WE OF THE WEST SHOULD CONSUME LESS SUGAR AND PRODUCE MORE.

AS A PEACE MEASURE WE OF THE WEST SHOULD CONSUME MORE SUGAR AND PRODUCE STILL MORE.

It rests largely with the American sugar beet farmer as to how well we are going to meet this obligation.

IN DAYS GONE BY, SUGAR WAS REGARDED AS A LUXURY; TODAY IT IS DEMANDED AS A FOOD.

The American boys in the trenches must be supplied, as well as our foreign Allies, by the Americans at home.

Unless we produce a great deal more sugar in 1918 than we did in 1917, we certainly must consume enough less at home to supply the soldiers in the trenches as well as the civil population of France and England and our other Allies.

The Great Western Sugar Co.

The two following recipes are given by the U. S. Food Administration as good meat substitutes:

Beans and Rice

2 c. cooked kidney beans
2 c. cooked rice
4 c. sauce (tomato)

To make the tomato sauce: Brown 3 tablespoons of flour in ¼ cup of drippings or vegetable oil and mix with one quart of strained tomatoes and one tablespoon grated onion. Cook sauce five minutes; combine hot rice and beans; pour over them the hot sauce and serve.

Some Favorite Sausage Recipes

Sausage and Fried Apples: Pare and core two tart apples and cut into quarter-inch rings. Cook half a dozen rounds of sausage in a frying pan, turning until both sides are brown. Add the apple rings, cover and cook until the apples are tender. In serving make a mound of mashed potato in center of a hot platter and arrange alternate rings of apple and sausage around the potato.

Baked Sausage: Arrange the rounds of sausage in a shallow baking dish, pour around them a little stewed and seasoned tomato, and bake until brown.

Mock Sausage: Made from left-over beef or lamb.

1 c. cold beef or lamb, chopped fine
½ c. of bread crumbs
¾ tsp. salt
½ tsp. pepper
½ tsp. sage
¼ tsp. savory
¼ tsp. thyme

Moisten with a half cup of hot water in which a teaspoon of butter is melted, form into flat, round cakes, and cook in a frying pan until browned on both sides.

Vegetarian Mince Pie

Mix a pound of seeded raisins, a pound of currants, a quarter pound of candied cherries, a half pound of citron and orange peel, shredded; a quarter pound of blanched almonds, chopped fine; a level teaspoon of cinnamon, four tablespoons of sugar, the grated rind of one and juice of two oranges, one cupful of dry cracker crumbs, and a level teaspoon of salt. Add grapejuice to moisten. Do not add cracker crumbs until baking time.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

1948—Girl's Overblouse Dress. Cut in sizes 4, 6, 8, 10 and 12 years. Requires 1¾ yards 27-inch material for guimpe and 3⅝ yards for dress for 8-year size. This style will make an ideal school dress. The guimpe may be of lawn, cambric, cashmere, flannel or challie, and the overdress of plaid or checked woolen, of serge, gingham or galatea. The closing of the overdress is effected on the shoulders, but if desired, it may be closed at the center back or front. The guimpe is finished separately.

2270—Simple Dress for Mother's Girl. Cut in sizes 4, 6, 8 and 10 years. Requires 3⅝ yards 44-inch material for 8-year size. This will make a good school dress. It is nice for gingham, galatea, linen, repp, poplin, serge, gabardine or mixed suiting. The right front overlaps the left at the closing.

2288—A Charming Negligee. Cut in sizes: Small, 32-34; Medium, 36-38; Large, 40-42, and Extra Large, 44-46. Medium size requires 7¼ yards 36-inch material. This style is nice for crepe, China silk, satin, taffeta, charmeuse, cashmere, albatross, lawn, batiste or crepe de chine. In cotton crepe, with facings of lawn in contrasting material, one may have a very pretty and inexpensive gown after this pattern.

2046—Ladies' House Dress. Cut in sizes 34, 36, 38, 40, 42 and 44 inches bust measure. Requires 6½ yards 44-inch material for 38-inch size. In dotted percale, checked gingham, striped seersuckeer, this model will be very pretty. It is also nice for poplin, repp, linen, corduroy, drill, for tub silks, gabardine and crepe. The closing is at the side. The sleeve may be in wrist or elbow length. Deep, roomy pockets stitched to form double sections, are added on the fronts.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department. Western Farm Life, Denver, Colorado.

Early or Late Moulting

Have two-year-old hens which weigh three pounds. I notice the ones that molt first were the poor layers thru the summer. Are not laying now, but will lay soon. The hens that are in their full molt were the best layers. Which is the best to breed from, the early molt or the late molt?—L. J. K., Rincon, N. M.

"A bird in the hand is worth two in the bush." The above saying is no more true in any other business than it is in the poultry business. I think we are getting away from trying to force hens to moult to get them back into the laying earlier in the winter, which has never proven profitable because to cut off egg yield in the first place never brought a double egg yield later or any sooner to speak of. The hen that moults early, that quits the job and goes to loafing, requires a longer time to finish the moult and get back to business than the one that moults late, keeping on the job during the summer and fall months. Moreover, about the time the hens get into the moult pretty generally eggs are steadily advancing in price and those eggs laid by the late moulters during August, September and October are worth as much on the market as eggs laid by the early moulter in January, February and March. By all means keep the late moulting hen and dispose of the early moulter. Keep the hen that sticks to the business thru all sorts of adverse conditions, as I doubt if you will be able to build up the egg-laying capacity of your flock in a more sure way than this. I think if you could mark these two types of hens, the early and the late moulter, you would find that those moulting late get back to business in January and February just as early as those that have been laying off for two or three months longer.

Last fall I cut down the number of my three-year-old hens to eleven. I marked those that continued laying late into the season with paint and when I branded them for next year's pen I found that I had five hens which laid into November and six which quit all the way down into September. Three of the late moulters are at the present time in zero weather almost bare of feathers. It seems to me that they were so busy laying eggs that they did not have time to make a new coat of feathers. I am not able to trap-nest my hens, but I know without trap-nesting that these five hens are the ones that will bring the average of the flock well up, while the other six, tho not poor layers in any sense of the word, are the ones who will not come above the general average in laying. My early moulters and those starting to moult in July and which quit laying in August and early September are disposed of to the butcher. I find now that I am not getting a single egg from any one of the hens, the last one having quit the 15th of November, but the eggs are coming from the early pullets. However, my hens show every indication of a quick moult and will probably begin laying in February.

Fitting Birds for the Show

How shall I feed and fit white Minorcas for showing?—C. H., Johnstown, Colo.

To show your white fowls in sharp competition requires careful washing and conditioning. To wash them properly is quite a job and one should have assistance. Birds should be submerged and when the feathers are thoroly soaked, every part of the plumage should be washed with soap until the dirt is all removed. After draining, the fowls should be thoroly rinsed in luke-warm water. The second time the fowls should be rinsed in water prepared as for blueing clothes. The last water should be cool but not cold. Fowls should then be wiped with clean towels or be allowed to drain and dry gradually. They should be kept in a warm room after washing until danger of taking cold is past. It is not wise to feed fowls, before showing, enough to get them overfat. This is not likely to happen with Minorcas, but by all means get them up to standard weight if possible. The standard weight for white Minorcas is as follows: Cocks, 8 pounds; cockerels, 6½ pounds; hens, 6½ pounds; and pullets, 5½ pounds.

Hens Need Protein

A report received by the University of Missouri College of Agriculture from one Missouri farmer who feeds nothing but corn to his chickens shows that he received only six eggs from eighty-four hens and pullets during November. Another farmer in the state received 112 dozen eggs from 430 hens during the same period. This man feeds corn, oats, bran, shorts and meat scrap to his birds. This difference in egg production is due to the difference in the method of feeding. The man who feeds only corn is not furnishing the proper materials for egg production and consequently his hens do not lay. To produce eggs the hen must have protein material to form the white portion, and when the supply of bugs and worms is shut off by cold weather this white building material must be furnished in the ration or but few eggs will be produced. Meat scrap and sour milk are the most satisfactory feeds for furnishing the needed protein, and one or the other should be included in every winter laying ration.

Let Vaplon Help You Succeed With Your Hens

Continued from Page 5

than those confined to a yard. The difference was less marked in the general purpose hens. The Leghorns did not lay as well in the winter as the general-purpose breeds, especially during their second year, but the Leghorns produced eggs about 3 cents per dozen cheaper in their second year, and 9.8 cents cheaper in their third year than the general-purpose breeds. One pen of Leghorn pullets produced eggs in their first year at a feed cost of 6.7 cents per dozen, while the value of the eggs per hen for the year was $3.41 over cost of feed.

These figures show us what a good hen will do under favorable circumstances. KEEP BOOKS and if your results do not show up equally well, GET BUSY.

Adams County Farmers Organize

The farmers of Adams county, Colo., have formed a County Farm Bureau, the plan of organization being described in the following report of County Agriculturist George R. Smith to State Leader Lovett: "Practically the entire week has been taken up in the reorganization of the Federated Farmers' Association into a County Farm Bureau. A direct fee of $1 has been decided upon for membership, part of which goes to pay for the Exchange Bulletin and part for the expenses of operating the Farm Bureau. The county was divided into four districts of nine townships each. Each of these districts formed a central committee composed of one selected from each township by the farmers of that township. Outside of this number, three are selected at large to act on this central committee. Each farm organization in the district is entitled to one representative on the central committee. This central committee elect their executive committee, which consists of a chairman, vice-chairman and a secretary-treasurer. The executive committee of each of these districts constitute the County Farm Bureau, which in turn are to select their executive committee at a meeting on December 8. Two of the districts have been formed and have a membership of over 75 already. The representatives from each township have been selected as a membership committee and they are to solicit membership from all farmers in their township."

Comment by Farmer Putnam

Continued from Page 9

good world after all. What struck me about that crowd was that, when it come to raisin' good corn, they furgot about political and economical differences and all pulled together fur the good of the community and that's the right sperit. I don't give a hang what a farmer's politics is; it's like religion, somethin' to put on when you take your overalls off. I like to know the farmer when he's got his workin' clothes on and his theories is hangin' up in the closet waitin' fur the meetin' night of the Union, or fur preachin' service; at the same time I don't begrudge him his theories. The pet ones that belong to me is like my jewels; they sparkle and shine and when I look 'em over I think I'm a deep thinker. I wouldn't be robbed of 'em fur anything and I don't want to take any of 'em away from my brother farmers. Only some of 'em holds durn queer ones.

THOMAS JEFFERSON PUTNAM.

If you can't raise a pig, save one. You can do so by eating less pork.

WONDERFUL EGG PRODUCER

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit-maker, write E. J. Reefer, Poultry Expert, 4241 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today, or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—Advt.

Tractors are the busy Berthas of agriculture.

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Poultry Department WESTERN FARM LIFE, 1402 Arapahoe St.

I will keep a record of my poultry operations if you will mail, free of all cost, enough poultry record blanks to last six months, with the understanding that I am to have another six months' supply free when the first are used up.

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(Fill in name and complete postoffice address).

I am assuming no obligation except to make an earnest effort to keep a record on my poultry flock and send WESTERN FARM LIFE a summary of my year's work.

"Hooverize" Your Poultry

War rations for poultry must include the coarser, cheaper grains and by-products. It is economy to use them *if your birds are able to fully digest them* and convert them into eggs and meat. And *they can* if you regularly add to the ration

Pratts Poultry Regulator

America's Original Poultry Tonic and Conditioner

Pratts Poultry Regulator is not a food, but a scientifically compounded mixture of roots, herbs, spices, mineral substances, etc. Each ingredient performs a certain work in keeping the fowls in perfect health and highest vigor.

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Pratts Poultry Regulator insures such vigorous health that the birds are practically immune from ordinary poultry diseases. For this reason alone it is worth its small cost—about 1c a month per bird. If ROUP—a germ disease—attacks your flock, Pratts Roup Remedy will quickly overcome this trouble. Use it in changeable weather as a preventive of roup and colds. It's guaranteed!

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Poultry Book Latest and best yet! 144 pages, 215 beautiful pictures; hatching, rearing, feeding and disease information. Describes busy Poultry Farm handling 53 pure-bred varieties. Tells how to choose fowls, eggs, incubators, brooders. This book worth dollars mailed for 10 cents. Berry's Poultry Farm, Box 66, Clarinda, Iowa

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The Grange

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C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
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The annual ession of the Colorado State Grange will he held in Denver, January 15th to 18th, inclusive. Fraternal Aid Union hall has been ohtained for the husiness meetings, this hall heing located at 1430 Champa street. The annual hanquet on the night of the 17th will he held at El Jebel Temple. Following is the program for the session:

Tuesday, January 15.
10:30 A. M.
Opening of Colorado State Grange in due form.
Roll Call of Granges and members.
Examination of credentials of delegates.
Appointment of committees for the session.
1:30 P. M.
Report of officers of the Colorado State Grange.
Report of executive committee.
Report of legislative committee.
Report of committee on conferring degrees.
7:30 P. M.
Juvenile Grange degree team contest.
Subordinate Grange drill contest.

Wednesday, January 16.
9:00 A. M.—Reports of officers continued.
1:30 P. M.—Reports of committees continued.

Thursday, January 17.
9:00 A. M.
Resolutions and motions.
Reports of committees.
1:30 P. M.—Election and installation of officers.
7:00 P. M.—Annual Grange banquet at El Jebel Temple.

Friday, January 18.
9:00 A. M.—Reports of committees.
11:00 A. M.—Memorial services.
1:30 P. M.
General business of the session.
Final report of committees.
Conclusion of business of Colorado State Grange.
Closing of the Colorado State Grange in due form.

Lecturer's Conference

On Tuesday afternoon, January 15th, there will he a lecturer's conference held in an adjoining room to the State Grange. There will he several good speakers and every lecturer is urged to he present and to bring ideas for discussion, as all are expected to take an active part in the meeting. This conference is of such importance to the Granges that the locals could well afford to defray a part of their lecturer's expenses to enahle him to attend.

Echoes From National Grange

The first formal business of the fifty-first annual session of the National Grange was the adoption of a resolution by unanimous rising vote instructing the secretary to send to President Wilson a message of loyalty and assurance of continuing support during the duration of the war. This dominant patriotic note struck early in the session continued thruout and showed itself time and again in committee reports, resolutions from the floor and demonstrations at the public gatherings. This attitude does not mean that the National Grange has forgotten its half century traditions as a peace promoting organization, but it does mean that the National Grange realizes clearly that there can be no lasting peace so long as the menace of a war crazed autocracy is permitted to remain in any position of real power on the earth. Neither does it mean that the National Grange hates war any the less but it does mean that it believes the shortest way to hanish war and its attendant horrors is to remove the cause and it accordingly throws the weight of its influence into the scale on the side of right and humanity until the dreams of world conquest shall be forever driven from the minds of Europe's war lord.

While this position upon the great question of the hour is worthy of the great body of the Grange membership, no less noteworthy were the positions taken upon the vital problems relating to agriculture in the present emergency. Practically every state master reported a desperate situation on the farms because of a shortage of labor, caused principally by the heavy industrial draft and to lesser degree by the selective conscription act. It was felt that our statesmen at Washington had not fully apprehended the seriousness of this situation in its relation to the world's food supply and every proper means was used to set it forth strongly and clearly. If American farmers are to feed the world they must have first the skilled men in agriculture to do the work and secondly they must receive such a price for their products as will enable them to compete with industrial enterprises for skilled labor and in addition to receive an adequate compensation for their own ability and skill with a fair return on their investment. This position was strongly emphasized in many committee reports and will be carried back to every state Grange for approval and support.—Michigan Patron.

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Fundamental Scientific Facts for the Farmer

Continued from Page 5

The heat of the sun provides the energy which causes plants to grow, and hy thermal tests it is found that much of it is used up in the huilding process; therefore hy reversing this process we get this heat hack again. It would he correct to say that the composition of plants is so much carhohydrates, so much protein, so much mineral matter—and so much heat or energy which can now he measured in the calorimeter.

Heat or energy can he no more lost or destroyed than carhon; it also goes the rounds. Another good instance of this is when we hurn limestone. The heat is used up in driving off the water of crystallization, and causing some other changes which make quick lime. By reversing the process, restoring the water, the heat hecomes apparent at once.

When the professor remarks that plants are mostly air, water, and sunshine, he states the whole case in a nutshell.

What About Coal?

Coal is simply plant or tree material which has heen preserved from oxidization hy being huried at great depths. The appearance in coal measures of carhoniferous material formed of water plants, peats, mosses, ferns, etc., leads to the helief that they may have heen formed in prehistoric days by the sinking of enormous masses of such vegetation in the swamps and lakes of the great water period. In burning coal we are using heat and sunlight which huilt up the vegetation of a period probahly before the coming of man.

The Caloric System

Heat, energy and electricity are considered hy scientists to he one and the same thing. Coal runs an engine, which works a dynamo, which generates electricity. This electricity runs any distance along a wire and works an electric motor which pumps water—power or energy. This same electricity may be conducted thru another wire into a kitchen where it cooks the dinner. This time it is heat.

Carhon gives out heat, and some of this heat may he converted into energy to pitch hay, and this heat or energy can he measured.

The calorimeter is the instrument in which the sample is consumed, and registers the amount of heat given off in calories, and by this means we get at the food or fuel value of such articles of suhsistence, as hread, potatoes, beans, meat or any other provender.

In the domestic science course at our colleges the calorie, particularly the large calorie, is one of the chief attractions, and represents the amount of heat which will raise the temperature of a kilogram of water (about a quart) one degree.

The student may learn how to draw up a hill of fare on a scientific hasis which will put pep into the hired man, and make a live wire of the hoss.

This is the theory; hut in practice it is found that calories do not always do as much as the calorimeter would lead us to expect. This is where the personal equation comes in. One man does his best on calories from starch and sugar, another on butter and fats, and another can almost live on meat alone which is poorly represented in calories. It is impossible to run an oil engine with gas, or a gas burning engine with coal, although the fuel may be chemically the same.

No Life Without Nitrogen

Protein is the hasis of the proteids which form protoplasm, and the protoplasmic cell is the heginning of life.

All plant and animal structures are huilt up of cells. The cellulose of plant tissue and wood is simply an aggregation of cells. As houses are huilt of bricks so is all organic matter built of cells.

Between the cells of animal tissue, and that of vegetahles there is this difference that those of the latter are more carhonaceous; hut the living cells of each contain protoplasm, and in the plant if this suhstance in the

Turn to Page 15

VISIT US WHEN YOU COME TO THE STOCK SHOW

Our office is now located at the Union Stockyards at the show ground entrance.

If you plan on building a silo in 1918 do not wait, but place your order early. The labor, material and transportation situation makes this necessary.

Do not fail to see our barn equipment exhibit.

We sell the Hinman Milker, most efficient, cheapest to install and to operate.

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HIGH CLASS JERSEYS AND DUROCS
Majesty Oxford Combination, half brother to the grand champion at Columbus, at head of herd.
Have a yearling son of the great Count Majesty, out of a Register of Merit cow, at right price. Only three of Count's sons left.
Have one March boar, sired by a son of Grand Model, and out of a daughter of Model Critic, a big, long stretchy fellow, at $65, worth a hundred. Will spare one open gilt.
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Valentine's Last, X12316; 452008 at head of beef herd. Claywood White, 427250 at head of milk type.
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I have the largest 6-year-old jack west of the Missouri River for sale. Other bargains in Mammoth jacks and jennets.
Inspection Invited Satisfaction Guaranteed
W. H. WHEELER, Garden City, Kan.

Farmers' and Stockmen's Exchange

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Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

WANTED TO HEAR FROM OWNER OF GOOD farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

WANTED—TO HEAR FROM OWNER OF GOOD farm for sale. Send description and cash price. Co-operative Sales Agency, Minneapolis, Minn.

WANTED STOCK RANCH TO RENT—ONE TO four sections with at least 100 acres of hay land. Cash rent. Colorado east slope preferred. Address T. C., care Western Farm Life.

FOR SALE—640 ACRES OF THE BEST IMproved dry land in Douglas Co., cheap, with or without stock and implements. G. Gerher, 417 28th St., Denver, Colo.

I HAVE SOME CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give full description, location and cash price. James P. White, New Franklin, Mo.

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DO YOU DESIRE A HOME? OR DO YOU WANT to sell or trade the one you already have? We are in a position to assist you either way. We will find you a customer who will buy your real estate, or we can find you a home for cash or easy payments anywhere you choose. Let us hear from you at once. Perry & Son, Weldona, Colo.

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Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

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NONE BUT THE RICH CAN AFFORD TO raise scrubs. Head your herd with a bull from Buffalo Grass, Shorthorn herd. Have sold bulls 40 years and no kick. Samuel Ball, Star Rt., Wray, Colo.

HOGS

BIG TYPE POLAND CHINA SOWS, REGISTERED, bred or open. W. J. Peterson, Seibert, Colo.

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

ON FEB. 28, 1918, I WILL OFFER FOR SALE 50 pure bred Poland China sows, 25 head of high grade Holstein heifers, 15 head of which have been in the cow testing association and will be sold on their merits. George D. Brown, Polo, Ill., R. 1.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

QUALITY DARK CORNISH, THE IDEAL FARM fowl. W. W. Officer, Fowler, Colo.

FOR SALE—THOROBRED LIGHT BRAHMA cockerels. E. Grosser, 2240 Perry, Denver.

YOUNG CANARIES $5 A PAIR. BUFF ORPington Cockerels $2 and $3. Leslie Christensen, Rt. A, Akron, Colo.

QUALITY DARK CORNISH—A FEW CHOICE cockerels from prize winners at $3 and $5 each. R. H. Jandebeur, Alma, Neb.

A FINE LOT OF VIGOROUS, EGG-BRED S. C W. Leghorn cockerels for sale. They will improve your flock. Rowley Egg Farms Co., Palisade, Colo.

WHITE WYANDOTTES, CHOICE COCKERELS for sale. Mrs. Geo. Wheeler, Route A, Otis, Colo.

HALL'S S. C. REDS WIN AGAIN AT WYOMING State Fair. Some fine birds for sale at low prices. Liston L. Hall, Gering, Neb.

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BARRED PLYMOUTH ROCKS; A NICE LOT of Cockerels, mostly of the light or pullet bred line, and a few hens and pullets, Bradley and Latham strain, none better. Chester Blunt, Greeley, Colo. R. 1.

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Fundamental Scientific Facts for the Farmer

Continued from Page 14

cells is destroyed by drouth, heat or intense cold, the sap ceases to circulate and death ensues.

The lowest form of animal life is the amoeba, which consists of one or two protoplasmic cells floating about in water. It can appropriate food for itself from the water, can move around, and grow and multiply.

The proteids contain nitrogen, carbon, oxygen, hydrogen, and some sulphur.

Protein is comparatively scarce in vegetable matter compared to the carbo-hydrates, for the reason that the protoplasm altho necessary to life is only present in the cells in very minute quantities, and is not found in the dead pith of plants or the heartwood of trees, but only in the growing portions. In the animal world, meat or muscle are composed largely of protein and beef or mutton, blood, white of egg and milk, when dry, contain about 16 per cent of nitrogen. These substances can hardly be said to be adequately represented by calories, being more of the nature of tissue builders than of energy or fuel.

Minnesota No. 13 Being Tested for Mile High Use

Continued from Page 3

Groom, Boulder; F. S. Leuthi, Boulder; Frank Bixlar, Boulder. The trustees will elect officers at their next meeting.

Prizes awarded on the corn exhibits were as follows:

Minnesota No. 13: Forrest Johnson, first; Frank Bixlar, second; D. W. Spangler, third; D. N. Ward, fourth.

White dent: Robert Altig, first; Clarence Brolee, second; J. A. Miller, third; County Farm, fourth.

Colorado yellow dent: J. E. Manchester, first; Charles Snow, second H. N. Jay, third; W. E. Milner, fourth.

Swadley: C. Walter Kneale, first; Harry Yeager, second; D. L. Towne, third; C. F. Schweis, fourth.

Other varieties: Henry Rasmussen on calico corn, first; Will Pughe on Pride of the North, second; Fred Robinson on White Australian, third, Ralph Morton on yellow dent, fourth.

Boys' clubs: Cecil Barber, first; Shelby Holton, second; Galen Basher, third; Elmer Smith, fourth, the boys' corn being all Minnesota No. 13.

Sweepstakes for best ten ears of corn: Robert Altig on white dent.

L. F. Garey of the Agronomy department of Colorado Agricultural college, judged the corn.

Colorado Acclimated Horses

A Mile or More Above Sea Level Sounds High—It Is High

Don't Forget This When Buying Horses

A CHANGE OF CLIMATE

Is Very Often a Serious Matter for Horses

Why Take This Chance? Why Buy a Horse and Then Acclimate It?

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Our Specialty Is Colorado Acclimated Horses

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January 19th to 26th

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Percherons and Belgian Horses
Holstein Cattle **Longmont, Colorado**

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At the National Western Stock Show we will exhibit

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Oxford Annie No. 176802, Record 7,000 lbs. mlik in one year.

And a number of other Milking Shorthorns, including six young bulls ready for use and priced to sell.

We will be glad to see you.

The Pine Valley Dairy and Farms Co.

Colorado Springs, Colo.

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We are offering for sale three good yearling Hereford heifers, in order to reduce our herd. Two of these are by Heirs Anxiety. The dam one of these heifers was sired by The Heir, and the dam of the third is by Heir Apparent. Will be sold cheap if taken soon.

Two young Guernsey cows also for quick sale. Both sired by Imp. Polonious, a prize winner at the National Western Stock Show.

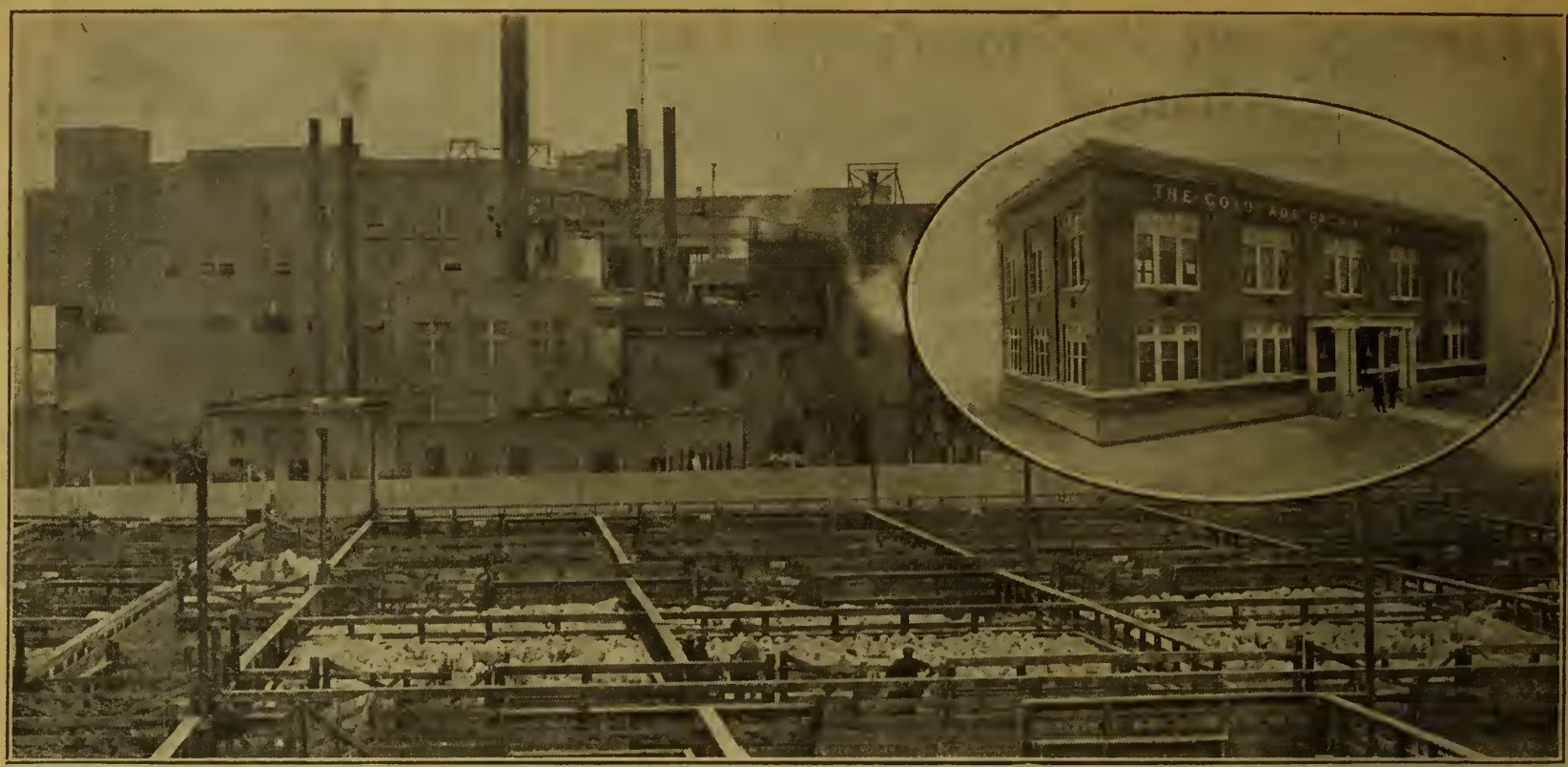
This is a good chance to get pure-bred breeding stock at low cost.

Also some Poland China and Duroc Jersey boars of July farrowing. Spring boars all sold.

Animal Husbandry Department

COLORADO AGRICULTURAL COLLEGE

FORT COLLINS, COLO.



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VOL. XX Denver, Colorado, January 15, 1918 Semi-Monthly

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Dick Kelly & Press Co.

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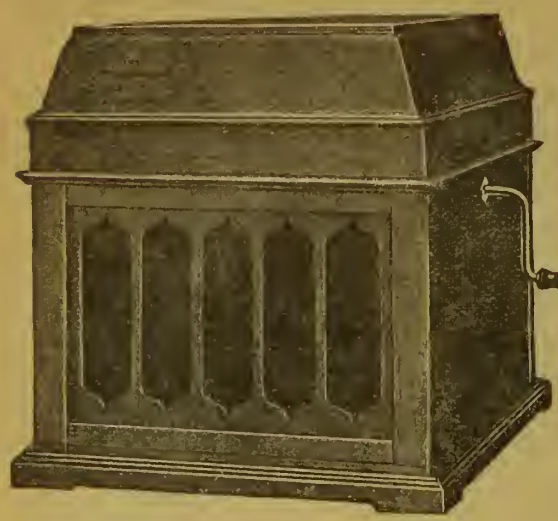

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Carnival of Venice—Variations
Italian Army March
My Sweetheart Waltz

BAND
American Eagle March
Aida March
Coronation March—Prophete
Father of Victory March
Gems of Scotland
Invitation to the Waltz
Jolly Fellows' Waltz
Loin du Bal
March Religioso
Medley of War Songs
Messenger Boy March
Sextet—Lucia di Lammermoor

CONCERTINA
The Butterfly
Catch Me If You Can, Dance
Merry Widow Waltz

CORNET
Bride of the Waves
Come Sing to Me
A Dream
Nightingale Song
The Rosary

FLUTE
Hear Me, Norma—Norma
Long, Long Ago

HARRY LAUDER
I Love a Lassie
Just a Wee Deoch and Doris
Roamin' in the Gloamin'
She's My Daisy

MARIMBA BAND
Blue Danube Waltz
Garden Dance
Messenger Boy March
Sari Waltz

INSTRUMENTAL MEDLEYS
Hawaiian Hula Medley
Medley of Southern Plantation Songs
Money Musk Medley—Virginia Reel
Selections from Red Mill
When it's Apple Blossom Time in Normandy Medley—Turkey Trot

INSTRUMENTAL QUARTETS
Dream of the Tyrolienne (Herd Girl's Dream)
Flower Song
Hearts and Flowers
Serenade

OLD TIME SONGS
Carry Me Back to Old Virginny
Just Before the Battle Mother
Killarney
Lost Chord
Love's Old Sweet Song

ORCHESTRA
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Every Little Movement—Madame Sherry
In the Shadows
Last Waltz

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Beautiful Galatea Overture
Light Cavalry Overture
Overture Oberon
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Rienzi Overture

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Battle Cry of Freedom
Star Spangled Banner
Where Do We Go From Here?
It's a Long Way to Berlin, but We'll Get There
We're Going Over
Over There
Laddie Boy
Send Me Away With a Smile
Good-Bye Broadway, Hello France!
I May Be Gone For a Long, Long Time
U. S. Army Bugle Calls—No. 2
Good-Bye, Good Luck, God Bless You Medley—Waltz
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Through the Air
Will o' The Wisp—Polka

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Little Cotton Dolly
In the Golden Afterwhile
Moonlight on the Lake

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Love's Melody
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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, JANUARY 15, 1918 | Number 2

High Feed Cost Forces Dairymen to Test Cows

REMARKABLE RECORD OF BLOSSOM, A MILKING SHORTHORN

SID KARNS

COW testing associations are becoming very popular in communities where dairy farming is carried on in a progressive manner. Each year finds hundreds of these organizations added to the already large list thruout the country. Farmers are at last awakening to the benefits which may be derived from individual records of their dairy herds. The time is not very far distant when the farmer who wants to sell a cow for dairy purposes will be compelled to furnish some sort of an official record as to the cow's production, and dairy points. It therefore behooves us to cast off the old-fashioned ideas, and join the rapidly increasing army of progressive farmers who are blazing the trail to better conditions for the cow end of the milk industry.

"We organized the Douglas County Cow Testing Association in June of this year," Archer Lapham, president of the Douglas County Association, informed me. "I can cite several instances where cows that were entered in our association have been sold for prices ranging from $10 to $50 higher than they would have brought under ordinary conditions. This is only one of the innumerable benefits derived from organizations of the like kind.

"Probably the greatest benefit to the members lies in finding out which are his good and bad cows. At this time, when feed is so high, you will appreciate the necessity of weeding out the star boarders. One would be surprised at the number of undesirable cows in herds that bear no records of any kind. Test records disclosed several in my herd, which I was confident were good producers. I got rid of them in a hurry, and can truthfully say that this weeding out has saved me many times the membership dues of the association.

BLOSSOM AND HER HOME

High Grade Shorthorn, Who Has Made a Profit Over and Above Her Feed of $105.72 In Six Months She Has Been Tested. Note the Milk-Veins How Far Forward They Run. Blossom Is Owned by Mr. Archer Lapham of Castle Rock, Colorado. The Sister to This Cow Was Sold to the Government Experiment Station at Archer, Wyoming, This Summer, as One of a Foundation Herd of Milking Shorthorns. Lower Picture Shows Silo and Barnyard on the Lapham Ranch.

"These records naturally disclose the best cows in the farmer's herd. This alone is worth a good deal from the breeding point of view. It gives one the opportunity to build up his herd to the highest possible production. Good cows, if properly bred, will bring good calves, and so on generation after generation.

"Take my cow Blossom for instance. I sold her sister to the Wyoming Experiment Station at Archer last August. They wanted her as one of a foundation herd of milking Shorthorns. Blossom is my best cow. She has made me $105.72 over and above her feed in six months. Her sister, which I sold, was her closest rival."

We went out to the barnyard. Mr. Lapham pointed out Blossom, his star cow. I was surprised, for Blossom did not impress me as deserving of such a flowery name. She was a rawboned critter that impressed one as anything but a record-smasher on first sight. But the udder and milk veins, when closely scrutinized, changed my opinion. The dairy points were there, and her record proves her to be nothing short of a four-legged milk factory.

June, 1917, she gave 38.5 pounds of milk daily, testing 41.58 pounds butterfat, which brot $22.45. The feed cost was 75c, leaving a profit of $21.70.

July, 1917, she gave 32.4 pounds of milk daily, testing 36.9 pounds butterfat, which brot $20.30. Cost of feed, 75c. Profit, $19.55.

August, 1917, she gave 24.3 pounds of milk daily, testing 30.1 pounds butterfat, which brot $16.86. Cost of feed, 75c. Profit, $16.11.

September, 1917, she gave 26.5 pounds of milk daily, testing 30.2 pounds butterfat, which brot $20.54. Profit, $19.79.

October, 1917, she gave 16.0 pounds of milk daily, testing 22.3 pounds butterfat, which brot $15.61. Profit, $14.86.

November, 1917, she gave 13.6 pounds of milk daily, testing 23.3 pounds butterfat, which brot $16.31. Profit, $13.71. This is the only month it cost more than 75c to feed her, feed this month costing $2.60.

From a financial standpoint you will readily see the value of this test-record.

Detailed information may be had with regard to organizing cow testing associations by addressing Prof. Geo. E. Morton, State Dairy Commissioner, at the Agricultural College, Fort Collins. A field man for the purpose of assisting in forming the association is furnished.

Members of the association should be assessed an amount sufficient to cover the association's expenses, salary of tester, etc. There should be a president, secretary and treasurer and a board of directors, who are elected

Turn to Page 15

She Is a Homesteader at Seventy-Seven Years

LIVING alone in a sod house on the plains of Morgan county, Colorado, is Mrs. J. A. McMichael who, at 77 years is undoubtedly the oldest woman homesteader in America. While she cannot handle a plow or do other heavy farm work, she has, nevertheless, been doing her bit in the cause of food production for war purposes by tending a flock of hens and a garden. Her daughter, Mrs. Bertie Bridgford, lives on an adjoining claim and the daughter's son does the heavy work on both farms.

The homestead laws require actual residence upon and cultivation of the land, consequently Mrs. McMichael must live alone, tho she frequently visits her daughter and grandson.

"Isn't it a lonesome life for you out here on the prairie?" asked a visitor. Her response was: "No, indeed; I like the restfulness and the bright sunlight. Everything seems so peaceful that I am perfectly contented. My friends think it strange that I should take up country life at my age, but I like it and I want to be useful as long as possible. I lived many years in Denver, where my husband was in the shoe business, and I have been out here now over two years and I don't care to go back to the city."

Sod cabins such as that occupied by the aged homesteader are still plentiful on the plains. They are built of turf, the blocks being cut about four inches thick, just down to the end of the buffalo grass roots. Little lumber is used, only the sashes for doors and windows being of wood, as is the framework of the roof which is, however, topped with turf, so that one often sees grass, cacti and prairie flowers growing on the tops of these cabins. They are comfortable, and with the inside walls plastered, are quite as warm in winter as wooden dwellings. They last many years in the dry atmosphere. The turf packs hard after weathering and does not readily crumble away.

Scores of women are making a success on homesteads, many of them doing their own farm work. It is not a rare sight for the wayfarer on the plains to see a woman following the plow and in most cases war conditions are not responsible, but the women are there from choice, having taken up the land before anybody dreamed there would be a world war. Not a few of these women farmers were once school teachers; others have gone "back to the land" because, as widows, they found themselves obliged to make their own way in the world and they chose the open country instead of work in town.

In his travels the writer has met a number of such successful women homesteaders, who like the life and who are doing much more than making a living at an occupation which has usually been considered decidedly masculine. These women often have to hire labor for the heavy work, but in homesteading communities there is always a spirit of mutual helpfulness, so that what one neighbor needs the other can supply. There are hardships, of course, in any pioneering country, but the women have shown themselves able to bear these as well as the men and with less audible complaint.

The war has driven farm women into actual field work, to help their husbands and take the places of sons who have gone to the front. This is true in Europe and the effects are beginning to be felt in the America. Next harvest season we may see women by the hundred helping with the wheat cutting, the haying, the threshing and other fall work.—A. T. S.

The Oldest Woman Homesteader and Her "Soddie"

Some Hints on the Keeping of Farm Accounts

AN OUTLINE TO SUIT 1,600-ACRE BEAN AND WHEAT FARM

Nothing has so stimulated interest in the matter of farm record keeping as the new income tax law. It is necessary for the taxpaying farmer to show, in a delnite way, his income and outgo and this cannot be done without a system of accounting. Recently a farm manager handling 1,600 acres of non-irrigated land in Northcast Colorado asked our Service Bureau for suggestions as to keeping books for his extensive operations. The question was submitted to W. E. Foard, farm management demonstrator for Colorado Agricultural College, whose reply is of such timely and general interest that it is given below, together with copies of some of the record forms suggested.

W. E. FOARD

YOUR letter, addressed to WESTERN FARM LIFE, has been referred to me for answering; that is, the portion of your letter in reference to a working plan and a system of accounts. I take it that the workIng plan you ask for is in reference to report blanks, vouchers, accounts, etc.

Altho you have not asked it, I hope you will pardon me if I take the opportunity to critlclse your plan of organization from a farm management standpoint. You must remember I do not have all facts at hand that I would like and, therefore, what I say is justified only upon the information I have in your letter.

In the first place, I see you have planned to have the entIre 1,600 acres of the farm in crops and are making no plans for livestock, except those needed for work and to supply provisions for home consumption.

Except in very few instances, and under unusual circumstances, any system of farm management on the plains of Eastern Colorado which does not depend more or less upon livestock is not by any means the most dependable and most profitable, taking it over a number of years.

Your letter shows that the 1,600 acres are to be used as follows:

Pinto beans	1,000 acres
Wheat	475 acres
Corn	40 acres
Cane	40 acres
Alfalfa	20 acres
Potatoes	20 acres
Barnyards	4 acres
Truck	1 acre
Total	1,600 acres

You will have such a large quantity of rough feed In the bean straw, wheat straw and cane that I wonder what you expect to do with it, unless you have cattle to feed it to. You may sell it, but not as profitably as you could feed it.

It is not necessary for me to discuss the importance of a definite plan of crop rotation or of a diversified and well-balanced farming business. You know these things; however, I wish to emphasize one point which you may not have seriously considered, and that is the farm labor problem. Experienced farm labor is going to become scarcer and scarcer as the war continues. The farmer who practices a system of farming which will enable him to keep as much of hls labor the year around as possible, is a farmer who, I believe, will have the least labor troubles. Such a system would mean a diversity of crops and also something to be done during the winter months, such as feeding and caring for livestock.

In regard to the forms of accounts, vouchers, time sheets, etc., these things have to be prepared to fit conditions on the individual farm. No set rules and forms can very well be handed out that will fill the bill. Since you say a record of each field is to be kept, I presume, of course, that you want to keep labor records In order to figure cost of production.

I do not know whether you intend to have a bookkeeper in addition to the manager, or not. If you Intend to go very much into detail of cost accounting, I should think one would be necessary. In that case, the party employed, of course, would want to use hls own systems.

Since you will have several workmen, it seems that some kind of a daily time sheet for each workman to fill out would be desirable. Form No. 1, inclosed, is one that a good many farmers have used very satisfactorily. These reports should be filled out each night by each workman and signed by him. The mauager should check them up each night, also. These blanks can be made in pad form, each workman having a pad, and if desired two or three copies can be made by the use of carbon paper. These forms are for the purpose of getting labor records. Each separate kind of work done, such as plowing, harrowing, planting, etc., should be given, with the time spent on each of these operations and the field in which each was done. A line should be drawn across the sheet to separate each operation performed. The horse hours, as well as man hours, should be recorded and if desired the horses can be numbered and these numbers given in each case, so as to keep the work done by each horse separate. These daily reports can be used as time sheets and as a basis for paying the men.

Your financial receipts and expenses could possibly be kept better on a day book or diary and posted at convenient times to the proper accounts in the ledger. If a bookkeeper is employed these items would be posted daily to the proper accounts. An expensive ledger book is not necessary. You will probably not have over 12 or 15 accounts, one for each crop and each class of livestock; also a machinery, real estate and a few other accounts. A 10-cent composition book will answer the purpose of a ledger. However, a ledger properly ruled can be purchased for very little.

Form No. 2, inclosed, shows how a corn account, for instance, would look when completed at the end of the year. I believe it would be wise to have accounts in the ledger for the different fields to which to post the labor items from time to time thruout the year from the daily sheets, but at the end of the year I would lump all labor together, of course keeping man and horse labor separate, and charged to the respective fields in one lump sum. Sometimes a special sheet is printed on which labor is recorded. One or more sheets may be used for each field. In case it is not desired to keep the labor separate on different operations, but only the total amount charged to each field wanted, then a blank like Form No. 4 can be used. One sheet of this form will probably take care of all fields for one month.

I have not attempted to draw up a form on which the manager should make weekly reports to the president. However, it seems that ought to be an easy matter when it is definitely decided what kind of a report is wanted by the manager.

Neither have I seriously considered a requisition form for the purchase of supplies. It seems as if this is entirely up to the manager and president of the company to arrange. Requisition forms are very simple. Something as follows would answer the purpose:

REQUISITION
(Name of Company)

Date..... No.....

Amount Wanted	Articles Wanted and From Whom	Value $	Value c

.....President of the Company.
.....Manager.

Requisitions should be put in book or pad form, so that carbon copies may be retained by the manager.

An inventory is one of the most important parts of any farm record. It is a good idea to have a special form for the inventory; however, since so few copies would be needed, forms sufficient for the inventory could be ruled by pen.

I have not considered a feeding record and other things that would be needed if a strict account of the livestock should be desired.

I am inclosing under separate cover a farm record book which a great many Colorado farmers are using. This book provides, however, only for the inventory, field record, receipts and expenses, and does not take into account the labor record.

FORM No. 1
(Name of Company)
Daily Labor Report

Workman..... Date....., 19....

Time Work Was Done	Kind of Work	Man Hours	Horse No.	Horse Hours
	Total Hours			

O. K. by.....
Manager.

FORM No. 2
Corn Account

Field No. B No. Acres 40

Date	Expenses	Amount $	Amount c	Date	Receipts	Amount $	Amount c
Mar. 2	5 bu. seed, at $2.....	10	00				
Nov. 16	Paid men for helping harvest.	21	50				
	860 man hours, at 15c.....	129	00				
	1842 horse hours, at 10c....	184	20				
	Rent or interest.....	80	00		Yield 30 bu. per acre. 1200 bu, at $1.....	1200	00
	Equipment charges: 1842 hours, at 2c.....	36	84				
	Taxes	6	00				
	Profit	832	46				
	Total	1200	00			1200	00

NOTE.—The above figures do not represent facts. They merely show the form and items entering into such an account. If the corn is cut or siloed, other items would enter in.

Concreting in Cold Weather

Concrete work may be done in winter if precautions are taken to prevent it from freezing before it has had an opportunity to set, points out R. A. Seaton, professor of applied mechanics and machine design in the Kansas Agricultural college.

If the materials and the air are warm, 24 hours will usually be sufficient for the setting to take place, but when the temperature is near freezing and the materials are cold, it takes place very slowly and consequently the concrete should be protected from freezing for several days.

After the concrete has once set, it may be subjected to very low temperatures without injury. The gain in strength will be much slower than at a higher temperature, but it will eventually become fully as great as under normal conditions. On account of the slower rate of hardening, care should be taken to leave forms in place and to protect the concrete from heavy loads until it has had opportunity to gain its full strength. This may be several times as long as in warm weather.

The best method of preventing the concrete from freezing will depend on the kind of work being done. Frequently the work can be inclosed with canvas, or can be done indoors and a stove used to keep the temperature above freezing. If the weather is not too cold, heating the water alone, or the water, sand, and stone, may enable the concrete to set before it freezes.

The freezing point of the concrete can be artificially lowered by the addition of common salt. This is most conveniently added to the water. An amount of salt up to 10 per cent of the weight of the water may be used without injury to the concrete, but it is not necessary to use so much except in very cold weather. About half a pound of salt to each gallon of water, equivalent to two pounds for each bag of cement, will be sufficient for temperatures several degrees below freezing.

The use of salt in concrete is likely to cause the formation of a white powdery deposit similar to that frequently seen on brickwork after a rain. Where this is objectionable, salt is not recommended.

After the work is finished, if artificial heat is not provided, cement sacks, canvas, straw, manure, earth, or sand should be thrown over the work to assist in retaining the heat of the mass. The heat produced by the fermentation of the manure may be of considerable help in keeping up the temperature.

In his annual report the secretary of the treasury greatly enlarges estimate of money necessities in carrying on the war. "The outstanding fact is that the cost of the war to the American people, including loans to the allies for the two years ending June 30, 1919, will be at least thirty-six billions of dollars."

Farm boys should lay in plenty of nuts and popcorn. It's going to be patriotic to eat it instead of candy this winter.

Arobine Ranch, "The House by the Roadside"

SUCCESS OF A DENTIST WHO HAS TURNED DRY LAND FARMER

Arobine Ranch, Calhan, Colo., a Successful Stock and Grain Farm

The House by the Side of the Road

I see from my house
By the side of the road,
By the side of
The Highway of Life,
The men who pass
With the ardor of hope,
The men who are
Faint with the strife.
But I turn not away from
Their smiles nor their tears—
Both parts of
An infinite plan;
Let me live in my house
By the side of the road,
And be a friend of man.

—Foss.

THESE verses have been adopted not figuratively but literally as the motto of the Arobine ranch near Calhan, Colo. There on the highway over which motor pilgrims pass by the thousand to the Pikes Peak region is the "house by the side of the road." In front of the house is a fountain, walled up in rustic fashion and well shaded from which a sparkling stream runs ceaselessly. The stream has its source in a twelve-foot spring that furnishes all the water needed for the dwelling, milkhouse, stock tank, lawn and garden, besides filling the canteens and radiators of the tourists who pass by and refresh themselves just as they are beginning to get glimpses of the magnificent scenery that lies an hour or two beyond.

Naming a ranch is not new in the West; in fact we have always had the most picturesque names for many of our farmsteads, taking them from the cattle brands. The owner of the Arobine, however, reversed the usual order. He selected the name for the farm and converted that into the brand name. Dr. Asa F. Cogswell is the owner. When he came into possession of the ranch he named it Arobine in compliment to his wife, who for forty years has shared his joys and sorrows.

And from Arobine we have the registered cattle brand—the Arrow B.

Dr. Cogswell, for many years, practiced the profession of dentistry. A few years ago he came to Colorado from Kansas and, as he expresses it, "began life anew." He tackled a profession that was strange to him, but for which he had all these years had a sincere longing, and he is succeeding in a most difficult line, namely, dry land farming. The ranch embraces 920 acres and about 200 acres of this is suitable for alfalfa, there being a water strata within easy reach of the roots. The altitude is about 6,000 feet, so the alfalfa is cut only twice a year, but what it lacks in tonnage is more than offset in the finer quality of the hay, grown without the application of water.

When the call came for increased acreage of crops last spring, Dr. Cogswell and his foreman, Paul T. Willis, made their plans big and broad. About 300 acres were put under cultivation and the harvest was ample, including 90,000 pounds of potatoes, 80,000 pounds of pinto beans, corn to the value of $800; small grains valued at $600, and 30 tons of hay valued at $360, besides many tons of roughage that is being fed to a hundred head of stock this winter.

Everything is based on livestock, the first business of the ranch being to produce enough grain and rough feed to carry the stock cattle, finish some for beef and, along with the cattle, fatten a lot of hogs. Like many other ranchmen, Dr. Cogswell last season grew a large acreage of cash crops for food. He lost about a third of his potatoes in the big freeze the last of October, but all other crops were safe under shelter when the writer saw him at the Autumn exposition in Colorado Springs about Thanksgiving time.

There the Arobine ranch furnished a display that looked as big as some of the community exhibits. A good many prizes went to the ranch, including first on oats, first on White Australian corn, first on emmer, second on barley, second on pinto beans, and second on bushel exhibit of corn, the variety being White Australian.

"We found out that the tractor does the business," said Dr. Cogswell. "We have a 12-24 Waterloo Boy that did practically all the plowing disking, harrowing, seeding, cultivating and harvesting. This proved a labor saver as well as a time saver. In fact, without the tractor we could not have broken up so much new soil and got it in shape for seeding."

The six-room cottage is located in a pleasant grove of shade and fruit trees, including fifty cherry trees. Spring water is piped into the kitchen and the milk house is supplied with running water. There is a large barn with stone basement, a sixty-ton pit silo, a potato cellar having a capacity of three cars, and the usual number of cattle sheds, as well as poultry house and the like. Part of the ranch will remain in native grass pasture, which is one of the most valuable assets of a prairie farm.—A. T. S.

Secrets of Science Regarding Growth of Plants

SOME OLD THEORIES DISPROVED BY DRY FARMING PRACTICE

E. R. PARSONS

TREES and plants have always been considered products of the soil, yet how little of the soil really enters into their composition!

Vegetable matter might be aptly described as a mass of carbohydrates with a trifle of protein and a pinch of mineral salts.

To arrive at an estimate of the soil or mineral matter contained in dry crop material, it is usual to burn it and weigh the ashes. The results vary somewhat according to the nature of the plant and the variations in composition of its component parts: For instance, wheat grain yields only about 2% of ash while wheat straw gives 6. One of the highest in mineral matter is potato tops at 15%. A fair average for ordinary dry vegetable matter would be about 5 or 6%.

This amount seems so insignificant as compared with the bulk of the individual plants that the question might be asked as to why they could not exist without any soil. Some do; but they belong to the lower forms of plant life.

In the West Indies, Central America and other damp tropical countries are numerous air plants, some of them flowering orchids which have no roots, grow in the shade and live entirely on air and water. They may be removed from a rock, or dead tree on which they grow, attached to a wall or verandah with a nail or a pin and will continue to flourish and bloom for years. Including the lichens which are found on rocks and dead wood in the temperate zones, these are probably the only exceptions to the rule that the vegetable kingdom demands soil to grow in and a percentage of mineral matter as a diet, which altho insignificant in quantity is indispensable for the metabolic processes of the plant.

Water ,of course, is the medium by which the mineral matter is appropriated, and nothing that is not soluble can be absorbed by the roots.

It has been demonstrated by our college men that for every pound of dry matter produced by crops approximately about 400 lbs. of water is used up. Now if the mineral constituent in this pound of dry matter is only 5% or about 1/20 as we have already established, it is evident that it is only 1/8000 of the 400 lbs. of water, which demonstrates that, provided the minerals are in exactly the right proportion demanded by plant life, a satisfactory solution need contain no more than one part of mineral matter to eight thousands of water—a teaspoonful to two buckets.

The Soil Solution

All water that falls on the ground and soaks in becomes a soil solution, and differs in strength according to the richness of the soil, and its water content, for when there is plenty of free water it is naturally weak in mineral matter, and vice versa; so that while a free water solution might be estimated at one in eight thousand, a film water solution in dry weather might be only one in two or three thousand.

When the rain water filled with richness from a fertile top soil passes downward into poorer strata it leaves much of its strength behind it in the subsoil, so that even in seasons of much rainfall there is very little plant food washed downward which deep rooted crops cannot recover.

In explaining the soil solution in relation to the plant a question which suggests itself is this: How do such hard solid substances as iron, flint, lime, etc., get into the plant? The answer is by means of acids or alkalis which combine with them and render them soluble in water. This combination of an acid with a base is called a salt, and the mineral matter in a soil solution is often referred to as salts of the soil. In the dry state they actually appear much like common salt or baking powder, and are mostly white excepting the salts of iron which are brown.

A teaspoonful of these soil salts in a bucket of water would make a good soil solution, and a plant could be raised in pure sand if watered with it. The water would be colorless, practically pure and good to drink for much spring water carries as much mineral matter or even more, than an ordinary soil solution; but, of course, the spring water is always preferable to surface or soil water for drinking purposes on account of its carrying less germs and animal matter.

There is some difference in soil solutions with regard to the acids which combine with the minerals to form the salts, but the carbonic always predominates, and an ordinary soil solution may be considered to contain the carbonates of soda, potash, magnesia, lime, sesquioxide of iron and ammonia, some silica or flint, itself an acid, which when in combination with an alkali such as soda or potash may form a soluble waterglass, also traces of sulphates, phosphates, nitrates, nitrites, and muriates or chlorides.

One Reason for Deep Plowing

The first of these and perhaps the most important are the six carbonates. These cannot be formed in the soil without carbonic acid gas in the water, and this cannot be generated without HUMUS which also supplies some ammonia (nitrogen). This is one of the principal reasons that it pays to plow deep, to bury the sod, stubble or manure, and prevent this valuable and indispensable gas from escaping into the atmosphere.

The soil granules are minute particles of rock which carry the mineral matter, and every time these are fractured by cultivation, fresh surfaces are exposed for the soil acids to work upon.

It is more important for the dry farmer to improve and conserve the fertility of his soil than for the irrigator, for the reason that his crops can do with less water when the soil solution is rich, then when it is poor, for much of the water is nothing but a carrier for the soil salts, and is transpired back into the atmosphere by the leaves of the plant.

Turn to Page 17

Bearded Barley That's Beardless

IT'S A SUCCESS AT THE WYOMING STATION

T. S. PARSONS

The above caption may appear paradoxical, but it is nevertheless true. Such a barley is now being successfully grown in Canada and was grown last year on a small scale at the Wyoming experiment station. Who has not worked in the harvest field or around a threshing machine and wished that barley grew without beards?

There are beardless varieties of barley, but they have not proved as satisfactory as the bearded ones. The Success Beardless has been offered by seed houses for a number of years, but it has not been as good a yielder and it appears to be more susceptible to smut. The White Hulless or Bald barley has also been quite extensively grown in the mountain states. It has not been popular, however, on account of the extreme hardness of the grain and the ease with which it shatters when ripe.

Since barley does well under northern and high altitude conditions, it is a valuable crop to grow where the seasons are rather short for growing corn. It ranks high in feeding value, largely taking the place of corn under these conditions. The great objection to growing barley, however, is the disagreeable beards or awns. These stiff awns make it disagreeable to handle and often cause serious mouth troubles when cattle and sheep eat the straw.

A new variety of barley was grown at the Wyoming station this year which has all the good points of the best bearded varieties but when ready to harvest it is beardless. In other words, as the grain ripens the awns are shed. This barley is known as the Charlottetown No. 80. It is a two-rowed barley of the Chevalier type and the first year's trial shows it to be one of the best barleys ever grown at the Wyoming station.

The straw is of medium strength and grew this year to a height of about two and one-half feet on ordinary soil. The heads averaged nearly three inches in length and were slightly curved by the weight of the grain. As the heads begin to ripen the awns begin to drop off at the base of the spike, and by the time the grain is ready to harvest all the awns are shed so that the spikes are left entirely bald. The grain is firmly attached to a fairly compact head in regular order so that it does not shell easily.

A small quantity of the grain was obtained last spring from the Canadian experiment station at Charlottetown, Prince Edward Island, and planted in one of the experimental plots at the Wyoming station. It matured among the earliest of the barleys and the small plot gave a good yield. A larger area will be grown next year in order to test more fully the characters of the grain. Coming from the far north as it does, it should be a good variety for the northern states and the high altitudes of the mountain sections.

The history of the progenitors of the Charlottetown barley is somewhat obscure. As nearly as can be determined the early settlers of Prince Edward Island brought with them from England several kinds of barley. Among these was a two-rowed type which proved to be well adapted to the country. It is thought that this barley was the English Chevalier, as it had all the characteristics of that variety.

In the process of time, as the barley became acclimated and naturalized, it was called Old Island Two-row. A study of this barley made at the Charlottetown station showed several distinct types. These were separated and one of them, known as Charlottetown No. 80, has been an outstanding yielder at that station for the past five years and has shed its beards when ripe.

The outstanding characters of this barley are a short growing period, baldness at harvest time, large yield per acre and heavy weight per bushel. These factors should commend it to barley growers in the north and at high altitudes where barley is grown. In appearance and habit of growth it resembles the Hanna barley quite closely. The Hanna shows some tendency toward shedding its awns under certain conditions, but cannot always be depended upon to do so, as is the case with the Charlottetown variety.

The impression is very general that the six-rowed barleys are better yielders than the two-rowed. This has not been the case at the Wyoming station. Here several of the two-rowed varieties have yielded equally as well as any of the six-rowed and have not shattered as badly when ripe. The grains of the two-rowed are also more uniform in size.

It is as a feed crop that barley finds its greatest use in the north and in the mountain states. It is also a valuable substitute for wheat as a human food, standing close to it in nutritive value. At the present time, when it is essential that wheat be conserved, it is probable that barley will find a wider use as a human food. Undoubtedly large quantities of barley have been used for brewing purposes in the past, but under the present stress it will be more sensible as well as more logical to use barley for bread rather than for beer.

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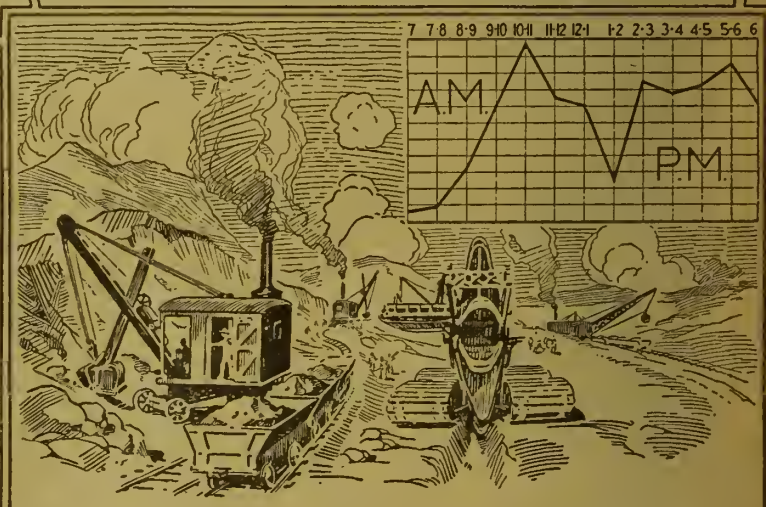

Avoiding the Rush Hours

The curve in the right-hand corner of the illustration shows approximately the fluctuations of telephone calls at a large central office in a business section of a city. The high spots represent the rush hours for which additional operators and adequate equipment must always be ready.

To get easier hauls, the railroad engineer lowers grades and straightens curves, cutting thru hills and filling valleys.
If the telephone traffic curve could be flattened by distributing a ppercentage of calls over less busy periods, it would effect a material saving and assist us to meet the extraordinary demands for telephone service.

Important business calls cannot be deferred, but there are many calls, social and less urgent, which might be made at other times without loss to the subscriber.

By avoiding these high spots in telephone traffic, and by making telephone calls of a social or less urgent nature before or after the rush hours, the telephone user will be co-operating with us in the patriotic service we are rendering the Government and help us to meet the constantly increasing demands for telephone service.

The Mountain States Telephone & Telegraph Company

WE GUARANTEE THE RELIABILITY OF EVERY ONE OF THE WESTERN FARM LIFE ADVERTISERS

Income Tax Discussion

Every unmarried person having a net income of $1,000 or more, and every married person having a net income of $2,000 or more in 1917, must report before March 1, 1918, to the Collector of Internal Revenue for the district in which the taxpayer resides. It is necessary that you find out whether you have an income that will make you taxable under the new law. So you better get out your pencil and do some figuring.

The law defines income as profit, gain, wages, salary, commissions, money or its equivalent from professions, vocations, business, commerce, trade, rents, sales or dealings in property, real or personal, and interest from investments except interest from government bonds or any state, municipal, township or county bonds. Income from service as guardian, trustee or executor; from dividends, pensions, royalties or patents, or oil and gas wells, coal land, etc., and INCOME FROM ALL SOURCES are taxable under the law, if the net income from all sources come to the sums named.

It is going to be some task for a farmer to find out what his income was. Few keep books, especially of the smaller items bought and sold. It is counted as sale if you take butter, eggs, apples, potatoes or any product you have raised to the store and "trade it out" for groceries, wearing apparel, or what not. Living expenses cannot be deducted, so you must figure the value of the farm products traded for something, as tho you sold the products for cash. It is nothing to the tax collector whether you got cash or sugar for the product.

The same is true of real estate. If you sold part or all of the farm they figure as profit or income the difference between the cash value March 1, 1913, and the price for which sold, or the difference between its cost and selling price if acquired on or after March 1, 1913. Rents are considered income whether paid in cash or in part of the crop or otherwise.

Of course, there are exemptions. The single person who is supporting dependent children or dependent parents or crippled relatives who cannot help support themselves is considered the head of a family and has the same exemption—$2,000—as a married person. Unmarried persons with incomes of less than $1,000 and no dependents are exempt from the tax.

Where husband and wife both have incomes they can report together and claim one exemption, or report separately and divide the one exemption between them. In case they are divorced or living apart, the one caring for the children can claim full exemption and the other only $1,000.

There is an EXEMPTION to the extent of $200 for each dependent child under 18 years of age. Suppose your net income figured up to $2,800 and you have four dependent children under 18 years, you would be allowed $800 deduction for them.

There is a certain depreciation in the value of property which is exempt. It runs as follows: Five per cent on frame buildings and 2½ per cent a year on brick or stone buildings; 10 per cent on the cost of farm machinery and implements. But this deduction must be based upon actual depreciation thru use or partial destruction. If its value is the same as the year previous there is no deduction.

In case of loss by fire, theft or storms, not covered by insurance, you CAN DEDUCT the fair market value of the property. This applies also to machinery, implements and farm buildings. You CAN DEDUCT losses in trade or business provided the loss was actually suffered. But you CAN'T DEDUCT for hogs lost from cholera or cattle from sickness unless you had bought them, and then only in the amount you paid for them. Neither can you deduct for loss of any stock or grain or feed that you have produced, because you are not required to report on these until sold.

Sweet Clover Is Winning

That sweet clover is growing in popularity thruout the state is shown by its greatly increased acreage in the last two years; every county with the exception of nine—eight of which are in the extreme western part of the state—reporting more or less areas devoted to this legume. The 24,304 acres of sweet clover reported this year is almost double that of 1915, when the first statistics on the crop were gathered by the State Board of Agriculture.

In the southeastern quarter of the state sweet clover seems to be meeting with special favor. Boulder, Greenwood and Cowley counties in that section lead all others, with 3,997, 2,634 and 2,575 acres respectively. Its adaptability to conditions is suggested by its wide distribution; Finney county, in the southwest, ranks fourth in sweet clover. The larger percentages of increase in acreage in the last two years are in Barber county, leading with a gain of 9,660 per cent, Chase county 5,180 per cent, Sumner 2,300, Sedgwick 700, Morris 470 and Cowley county 245 per cent.—Farmer's Mail and Breeze.

A Vomiting Calf

Could you tell me what is the matter with my calf and what will cure it. It was born April 10th last and when a few days old, began vomiting and has kept it up ever since. It seems to have the spell worse at night than in the day. It eats hearty, but don't grow much. I let it run with the mother all summer, but it didn't get any better so I have weaned it now and feed it bran, but it still has those vomiting spells and at times looks very thin. It is a heifer calf.—H. M., Weld county.

This is probably congenital (born that way) and incurable. The fault may be in the vomiting center of the brain or a defect in the stomach or its secretions. Try a physic of castor oil and feed sparingly. The only hope really is that the calf may outgrow the condition if you can by nursing keep him alive for a few months longer.—G. H. G.

Why This Oakland Wins Wide Favor

It is no accident, nor mere caprice of opinion, that has given the Oakland Sensible Six its high place in the regard of the American farmer.

It is, rather, that this car more ably meets his wishes and his needs than any other, and better serves him at a lower upkeep cost.

Although built on an extraordinarily strong and serviceable chassis it carries no unnecessary weight, and its high-powered engine is free from handicap of any sort.

Its sightly and comfortable body is swung on long springs over a generous wheelbase—on the roughest roads the car travels with sureness and ease.

The high-speed overhead-valve engine of the Oakland Sensible Six is simple and efficient; at 2600 r. p. m. it delivers 44 horsepower, or one horsepower to every 52 pounds of car weight.

It is quick, capable and positive in action; under all conditions it is exceedingly sparing of fuel.

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Western Farm Life

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GEO. E. MORTON..Dairying and Hogs
W. E. VAPLON.....Poultry Raising
MRS. H. T. FRENCH.....Home Dept.

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Our Cover Picture

The cover picture shows the use made of the Parrett tractor by J. B. Grinnell, Papillion, Neb. Mr. Grinnell is secretary of the Nebraska Farmers' congress and a strong advocate of good roads. He has found the tractor very successful for pulling the drag. There is a suggestion in his experience for other western farmers. Dirt roads need dragging frequently to keep them smooth.

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An Announcement

We have long felt that our readers were not getting the benefit of the experience of ex-Governor E. M. Ammons of Colorado, who is president of the Farm Life Publishing Company, a practical farmer and stock raiser, a member of the Colorado State Board of Agriculture, president of the Farmers Life Insurance Company, originator of the idea for a western stock show and president of the National Western Stock Show Association. A man having so many interests naturally has little time for reducing his thots to writing, and the Governor has for some years been doing rather more speaking than writing. He often appears before audiences of farmers, but he cannot reach many people in the course of a year in that way.

In order to provide a channel thru which he might reach thousands where heretofore he has talked to hundreds, Governor Ammons has consented to make his contributions to WESTERN FARM LIFE regularly in future, instead of occasionally. To give our readers this opportunity we have set aside space on the editorial page. This space has been, so to speak, leased to Governor Ammons just as a man leases a farm. It is his to do with what he desires. We do not know what he will do with it or what he will say, from time to time, but those who know Governor Ammons are aware that what he will say will be worth while. He will not confine his discussions strictly to agriculture and stock raising, but undoubtedly will touch upon social and political issues, mainly as they affect the farmer. His aim will be to make the reader think and he will welcome discussion and comment from his farmer friends everywhere.

This is another step in the process of making WESTERN FARM LIFE a real constructive force in the agriculture of the mountain states. We are here to help build up the farming industry. You are doing it on the farm by actual practice; we expect to put the plans before you on the printed page. You are the builder, we the architect. It is our purpose to keep before you high ideals; to stimulate your thot processes. Without an ideal in mind, your results will be haphazard and unsatisfactory. Working together as editors and readers we can accomplish something, so watch the Governor's column, which will appear on this page, and if it hits the spot let us have a response from you.

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Parsons Remains on Staff

Our readers will be glad to learn that we have arranged with Mr. E. R. Parsons for another year as one of our contributing editors. Wherever dry land farming is known there the practical work done by Mr. Parsons, as reported in his writings, is followed with interest and appreciation. Few people unfamiliar with this great subject are aware of its importance in relation to the future of humanity. More than one-half of the earth's surface is watered by an average annual rainfall of less than 20 inches and only a very limited portion of this vast area can ever be brot under intensive cultivation by artificial watering.

These lands, found on every continent, are the earth's most extensive undeveloped agricultural asset. As time goes on more and more of these lands must be brot under the plow if the world's increasing population is to be fed and clothed.

In the western half of the American continent the branch of scientific agriculture technically known as dry land farming has been brot to a higher state of development than elsewhere in the world. In our own day and generation the principles mostly known and recognized by careful agriculturists for centuries, have been applied to the conservation of soil moisture so effectively as to wrest from the so-called desert literally millions of acres that, thirty years ago, where considered fit only for grazing.

Among the few men who have combined theory and practice and successfully applied these principles over a considerable period of years under semi-arid conditions is Mr. Parsons. Most of his farming was done here in Colorado. While he farmed he wrote and lectured. He has now turned his attention almost exclusively to writing, tho he still lives on a farm and looks after details of management. He has always had the farmer's viewpoint and when he advises a certain method he does so because he has tried it and knows that it will work.

Mr. Parsons' services are at the disposal of our readers. He willingly answers questions concerning dry land farming and can be reached by letter care WESTERN FARM LIFE. He has in preparation now a series of articles which will appear, as nearly as possible, in every other issue of the magazine. The subjects include:

Spring Work on the Dry Land Farm.

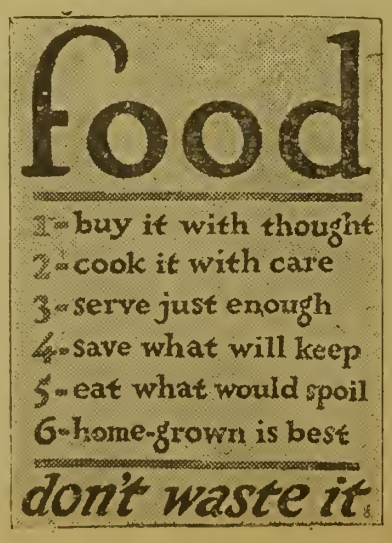
Potato Growing Under Dry Land Conditions.

How the Family on the Dry Land Farm May Be Made Self-Supporting.

What Dry Land Farming Is Doing for Agriculture. (This includes the use of dry land methods by the irrigator.)

Summer Cultivation and the Fallow.

Judged by our experience of the past, we can safely say that any one of these articles will be worth a great deal more than the reader pays for a year's subscription to WESTERN FARM LIFE. These articles should be studied. Save your copies of the magazine so that you can refer to the articles whenever problems that have been touched upon come up in your farm practice. And on such occasions, if you fail to find the answer to your problem, write Mr. Parsons about it and let him help you.



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Lucile Smith's Accomplishment

Speaking of food conservation, we believe the attention of Mr. Herbert Hoover should be called to the wonderful record of Lucile Smith, aged thirteen years, who lives on a fruit farm at Grand Junction, Colorado. Little Miss Smith in 1917, with her own hands, put up 683 quart jars of fruit and vegetables. The complete story of her accomplishment may be read on another page of this issue. She did more than a dozen average housewives.

Perhaps you say it was all she had to do? But it was not; she did it in her "spare time." There is something unusual about a girl who will find enough "spare time" from school lessons and actual gardening to do a wholesale canning business. Her modest recital shows that she also grew two crops of garden stuff on a twentieth-acre plot of ground last summer—a crop of peas followed by sweet corn. If we all did as well in our own particular line of endeavor we would have less time for complaint about "conditions,' wouldn't we? There is, after all, only one way to success and that is over the road of difficult labor; and nothing is quite so satisfying, tho we have sore hands and tired backs, as the evidence of a well-performed task. Lucile Smith's example is an inspiration as well as an argument for the excellent service that is being rendered the commonwealth by the Boys' and Girls' club work.

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Advice Given 44 Years Ago

Good advice given over forty years ago to a prospective American settler in England makes excellent reading today. We herewith reproduce a letter written by an English gentleman named Fitch to Mr. W. Cooke, Esq., of London, the latter being the father of Dr. Vernon T. Cooke, dry farming expert, now residing in Denver:

Hawkhurst. August, 1873.

W. Cooke, Esq., St. John's Wood, London.

Dear Sir: I send you the few particulars that you wished for in regard to farming in America. First thing to do is to claim your land and then select the right sort. If you don't understand it, get someone who does and pay well for a good judgment. Your whole success in life depends upon a proper selection. When the land is got the next best thing to do is to put on it those things that will help to keep the house at once. Therefore, I would say put at once 150 hens of a good breed and early hatched. The latter is of vital importance, for if you invest in late hatched birds they will be late layers, late hatchers, bad growers and small layers. Early hatches will be just the opposite. Let the cock be of quite a different breed and blood.

The next thing say 12 sows, small, finely bred; head short, very square in the body. One good boar full grown of different breed and blood to the sows and one young small boar, different from all the others.

That stock will give you in two years, without any changing of blood, about 300 breeding sows and allow you to sell during the two years 600 fattened hogs.

Now you buy your cow, which requires good judgment in buying. All early bred and sent early to bull. As a rule everything early pays well; everything late never pays. You will often notice one man will make money fast while another, equal in capital, land and stock, will lose as fast as the other makes it. The only secret is, early and late breeding.

Now you go in for a team of oxen or horses and commence your farming operations. And sheep, say 100 to begin with. Then turkeys, six hens; geese, 20; ducks as many. These three latter will keep themselves and make money for you without any trouble on your part.

I have been out so much I have not had an opportunity to write you particulars before. Anything else you want to know that I can give, you shall have it with pleasure.

S. H. FITCH.

✦ ✦ ✦

"Wintering Mature Brood Sows" is the title of a new bulletin just issued by the Nebraska State Experiment station, giving an account of seven years' work at the North Platte sub-station. These experiments indicate, among other things, that old brood sows may be wintered on alfalfa alone with fair success, tho the practice is not recommended under usual conditions. It is also brot out that the cheapest ration, when credit is given for gains made, is a light ration of corn and alfalfa hay in the rack. Satisfactory results have been obtained by wintering old brood sows with the use of self-feeders and a ration of three pounds of chopped alfalfa to one pound of chopped corn.

The Branding Iron

Applied by Elias M. Ammons

Why shouldn't Uncle Sam's Biological Survey Hooverize the coyotes skunks and magpies and make them live on crows and cranes, thus saving our lambs and poultry and eggs for more useful purposes? If this cannot be done, why not interne these varmints with our other alien enemies until after the war?

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Now that the government has taken over the railroads, it might bore the tunnel under James peak and enable the Moffat road to at least quadruple its coal delivery to the people of the prairie states.

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The federal government should establish a purchasing base at Denver. At present the nearest ones are a Missouri river points on the east, Texas on the south, San Francisco on the west, with nothing on the north. The Denver territory is capable of more increase in production of staples than is any other portion of the country. Under the present situation only speculators who buy at very low rates will go to so distant points to bid. The government would save money for itself and the farmer and greatly encourage production in this territory by establishing a purchasing agency here.

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The uproar against killing lambs for meat is due entirely to a misunderstanding of the facts. The term "lamb" in the markets means the sheep that is kept with its mother until weaning time and is then put on feed and pushed to marketable size in the quickest possible time. The expression, therefore, simply means early matured mutton, as "baby beef" implies not veal, but early matured beef. In each instance the quickly grown animal means economy in feedstuffs and time, prevention of waste and better quality of meat. The use of lamb should be encouraged.

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The suggestion comes from W. S. Wallace of Grand Junction that farmers be permitted to buy all the sugar they need if they will grow sugar beets this year to increase sugar production to a greater amount than is required to supply themselves. He suggests that in many of the factory districts a considerable increase in the acreage of beets might be secured thru some such plan as that proposed.

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In spite of a very dry fall and winter to date, our winter wheat seems to be in good condition; better in fact than the reports from sections farther east, and there is a very satisfactory acreage.

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Pinto beans have the same food value as navy beans and yet, under the present arrangement, navy beans sell at five cents a pound more at wholesale and ten cents a pound more at retail than do the pintos. But the navy beans are grown mostly in the east, while the pintos are raised out west. Politically speaking, it looks as tho the Michiganders and their eastern bean allies have a longer persimmon pole than we have.

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The splendid manner in which the farmers of the country responded to the call of the President for increased crop production for 1917 is well illustrated by the result in Colorado. In spite of unusually trying labor and other difficulties crops were increased from $90,000,000 value in 1916 to $145,000,000 in 1917. In addition to this the farmers subscribed their share of Liberty Loan bonds and Red Cross funds and sent their full quota of men to the army. This record not only gives the lie to the statement recently made by a certain Chicago banker that the farmers are unpatriotic, but bears out the history of the agricultural population. The farmer has been a reliable source of help in every national emergency.

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Decline in the number of sheep in the British Isles the past year has been slightly over one million head, more than half of this being in the class under one year old, showing diminished breeding operations.

Comment by Farmer Putnam

SOME REMARKS BY THE MISSOURIAN ON WAR TIME FOOD PRODUCTION

WHAT'S the country comin' to anyhow? Sometimes when I set still and think about all the things that's happened in the world in the last three years I wonder if we hain't all asleep and I pinch myself to see if I'm awake. Here's the President takin' charge of all the railroads and lettin' his son-in-law run 'em just like he was a trained conductor or engineer. They got a president of a college runnin' all the coal mines of the country and threatenin' to put the coal harons in jail. They got a minin' engineer dishin' out the grub fur the hull United States and our Alleys. Everything is upside down. Us farmers is gittin' more cash fur our crops then we ever dreamed of and buyin' less fur that cash then we ever got before. The city folks has got the same complaint. You don't walk ten steps nowadays without meetin' some feller that's got a grouch agin the hull universe. Everybody's down on him; he's bein' robbed right and left and gittin' no chanct to retaliate; he's been abused and swore at and oppressed and downtrod and mauled, and lambasted; every hand is raised agin him; the hull durn world is his enemy; everybody's got it in fur him; they're seekin' to ruin him and he hain't done nuthin'!

That thar feller is Mr. Common People, and he's sufferin' from world war We all git that feelin' onct in a while even if we try to throw it off and smile I been sufferin' that way myself lately, but I just set down and thot it all out and found that they was lots of things left to be thankful fur and lots of reasons why the farmer shouldn't lay down on the joh of helpin' feed the world.

The fust thing that popped in my mind when I was feelin' sorry fur myself was what J. E. Walker sez to me not long ago. When he was a young feller he started out to be a little ornery onct in a while, hut it didn't agree with him. So he set down and reasoned with hisself this way: "Now look here, J. E. Walker, you got to keep yourself company as long as you live. You kin git away from everybody but yourself. If your folks or your neighbors bother you, why you kin shut yourself up n your room, but you'll allus find J. E. Walker thar with you. You kin lock all the doors and winders and stop up the keyhole and shut out every sight and sound, but old J. E. will be thar still, watchin' your every move, knowin' what you're thinkin' about; knowin' if you're plannin' some mischief, and he'll reproach you if you make one false move. He knows you like a book; you cain't hide nothin' from him and if he ever loses his respect fur you why you cain't make no excuses to him."

So arguin' that way, J. E. decides to be a gentleman in the presence of J. E. allus, and he's tried to stick to that all thru life. Now that he's a granddad he finds that some others besides J. E. respects him and thinks well of him, and if some don't he's got the knowledge that he's tried to do the square thing, and if others misunderstood him sometimes or refused to make allowances fur some weakness, why J. E. knows that J. E. done the best he knowed how. "Keep your self respect," he sez, "and others will respect you."

That thar kind of talk helped me git this war grouch straightened out and took my thots offen my own troubles. I studied it out somethin' like this:

Here I am a farmer, with 600 sacks of pinto beans in my barn; lots of hay in the stack; a nice bin full of corn and plenty of oats. I done sold my wheat and got docked fur too much by the darn cheatin' grain buyer, but the cash paid off my bill at the store and left me somethin' fur Christmas Now beans has all gone to smash on price and I'm holdin' on to see what happens. By and by I'll have to sell; maybe I'll git five or six cents when I should-a had eight cents. Somebody's goin' to git more profit on them beans than I got and I took all the risk of raisin' 'em. I'm feedin' some hogs and twenty head of steers that I know I kin sell and git cash fur. Providence permittin', my family is safe from want and starvation and I kin count on payin' a leetle income tax to help the war along and buy another Liberty 'ond, besides follerin' the advice of the government and watchin' my own table to see that they ain't no food wasted that's needed by others.

So fur so good. Now what about the other side of the pictur'? Supposin' I was borned in France or Poland and had been farmin' about three acres instead of 320, and offen then three acres I had raised enough to feed my family and pay taxes to keep up the military. And supposin' my two sons was called away to fight when the war broke out, leavin' me a old man with the old lady to run the place. And one day we heard somethin' hoomin' in the distance and keep hoomin' and keep gittin' nearer and nearer, and by and by in the night we heard a trampin' and a trampin' and we peeped out and seen the German army overrunnin' the place like rats, tearin' out our trees with dynamite, settin' our barn on fire, burnin' up the old plow hoss and drivin' away the only cow; and finally comin' in the house, knockin' me down, stabbin' the old lady with a bayonet because she tried to help me, settin' fire to the cottage and passin' on, leavin' us to lay out in the ruins in blood and starvation. And supposin' our next door neighbor come over when it's daylight and tells us they carried off his wife and darter and left his dead baby layin' on the doorstep, killed with a bayonet and then I seen my wife die of her wound and the cold!

"Tom, Tom, what on airth be you doin'? Air you cryin'? What's hurt you?"

Them thar words of Josephine brot me back to my Colorado ranch and I sez:

"Josephine, if you ever hear me complain agin about the price of beans kick me. I just seen a vision of what might a-happened to me and you if we'd been borned in France."

"You old fool," she sez, "how could you been borned in France when your father and grandfather and on back has been Americans fur two hundred years?"

I told you-all before that it's useless to argy with Josephine and I didn't try it, but my sentiments is this: Let Thomas Jefferson Putnam grow all the food and feed and livestock that he kin afford to grow and git what price he kin fur the same, as long as he's helpin' feed them starvin' nations of Europe. Every time I feel like cussin' a food profiteer—and I feel that way a lot—I git down on my knees and give thanks that my farm

Turn to Page 13

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FOR ONE-THIRD WHAT THE MILK WILL SELL FOR

Contains all necessary food elements to fatten calves quickly, and keeps them in good condition. If your feed dealer cannot supply you, we will ship you direct for trial in lots of one hundred pounds or more with a guarantee that if your feeding test does not prove every claim we make to let you return what you have not used and pay what you think is fair. Manufactured and guaranteed by

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If you have trading to do you will find Great Economy in our Winter Clearing Sales thruout the Denver's $2,000,000 stock.

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Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Rye Straw Is Coarse

Ans. to R. S., Chaffee County, Colo.: Rye straw is too harsh and woody to make good feed. It should be used principally for bedding. However, when chopped and mixed with silage or roots it adds bulk to the ration. Oat straw ranks first, wheat second, barley third and rye fourth in value for dry roughage.

Fall or Spring Rye

Ans. to F. J. O., Rogerson, Idaho: Fall rye is usually the better crop to plant under dry farming conditions. In your section, we presume, the best results are obtained with any fall grains by summer fallowing your land. There are some localities, especially in the northern part of the dry farming country, where better results, or perhaps equal results, are obtained with spring than fall sown grains, but in most sections the fall grains outyield those sown in spring, besides having a much better chance to make a crop under adverse conditions.

Cow Has Indigestion

Have had trouble with one of my cows lately. She bloats about every day and sometimes oftener. She groans always, whether walking or lying down. Her appetite is poor and she is going down on her milk fast. Sometimes she doesn't give any. She runs in pasture days with the rest of the herd. Some alfalfa in the pasture, but it doesn't look possible that alfalfa should hurt them now, this time of the year. I also feed them corn fodder twice a day with the corn on, and corn is not well matured. What can be done to relieve this cow before I lose her?—H. S., Elbert County, Colorado.

The cow is evidently affected with indigestion. If you wish to save the cow, it will be quite necessary to discontinue feeding the immature corn and alfalfa. It will be well to give a physic of salts, and feed upland, timothy or second bottom hay. Oats will constitute the best concentrate in this case, but since she should be fed light for a time, it will be better to feed hay only, and that in moderate quantity. Dry corn stalks free from mold will do her no harm. Foods that ferment easily are dangerous for this cow, and you will need to be very careful about her feeding until she again becomes normal.—Dr. G. H. Glover, Veterinary Dept., Colorado Agricultural College.

Value of Silage and Weight

We have a pit silo 10x21 feet and would like to know how silage is usually sold in this way, and how you can get at the tonnage, or weight, that is contained in the silo. If you can give us any idea of what the silage is worth in the silo, from good non-irrigated corn, but well eared, would appreciate it.—F. H. M., El Paso County, Colo.

A silo 21 feet deep and 10 feet in diameter has an approximate total capacity of 31 tons when filled with well-matured corn silage. Corn silage weighs from 30 to 50 pounds per cubic foot, according to its depth in the silo and according to the amount of moisture it contains. Forty pounds per cubic foot is usually taken as the average, which would make one ton of silage occupy 50 cubic feet of the silo capacity. First-class corn silage in normal times is considered to be worth $4 to $6 a ton in the silo. These are not normal times, however, and prices for ensilage are varying widely, in accordance with the cost of hay and other feeds. In the irrigated section of Northern Colorado cattle feeders are paying all the way from $8 to $12 a ton for ensilage in the silo this winter.

Farm Lease Question

I have had a lease on the present tract of five acres for two years. Lease expires Feb. 16, 1918, and on or about Oct. 1 of this year, 1917, while we were away on a visit, the landlady or her agents rented the place to other parties. When I got my crop of beets off the ground, I sowed the same to winter wheat and on Nov. 20, 1917, when I was in the agent's office in regard to some improvements, he told me it was rented. Have they got to notify me early enough so I would not put fall crop in? Can I hold it on the present lease? I talked with the party who has rented it about him paying me for seed and labor, but he does not seem to want to talk. —C. U., Boulder County, Colo.

I would have to see your lease, if you have one, to determine the question you ask. If the lease says nothing about crops, you knew as well as the landlord when the lease would expire, and you should not have sown the wheat without an assurance in writing of an extension of the lease.—Hamlet J. Barry, Attorney, 724 Equitable Building, Denver, Colo.

Churning From One Cow

Ans. to City Man, on ill-smelling butter: It would be impossible to determine from this butter whether the cow is diseased, but the butter is of very poor quality. I do not know exactly the instructions given in regard to the handling of this cream, but the butter has every indication of being churned from over-sour cream and probably is churned at too low a temperature, also kept too long, which might account for the deterioration of the butter. Where a person has only one cow it is sometimes difficult to churn a good quality of butter unless it is churned in small quantities and at frequent intervals, and I would suggest, unless the owner has other reasons for thinking that the cow is diseased, that I would take special care in keeping the cream clean and sweet and churn in small quantities as often as possible. At this time of year it should not be difficult to keep the cream in good condition. However, it should not be churned while it is sweet. It should be kept for about twelve hours before churning at a temperature of about 70 degrees F. Then it should be cooled to a temperature of from 55 to 60 degrees, depending upon the condition whether it is a warm or cold day and be careful not to overchurn. Stop churning when the granules are about the size of a grain of corn. The buttermilk should be drained and the butter should then be washed with cold water at a temperature of about 50 degrees F. Be sure to get out the buttermilk, but do not overwork the butter, as overworking will produce a salvy condition in butter. Salt should then be added at the rate of about one-half ounce per pound, and it should be thoroly worked, taking caution not to overwork to get a good quality of butter.—W. F. Droge, Dairy Dept., Colorado Agricultural College.

One benefit of the war is that it has induced consumers to study foods and food values.

Kansas Germ-Free Fluid Vaccine for Blackleg

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died.—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

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Think what such simplicity adds to the life of Lalley-Light—what it saves in wear and tear, adjustment and repairs.

Lalley-Light engine was designed especially to run a direct-connected electric generator.

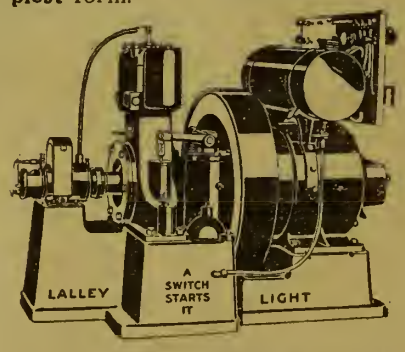
It has big ball bearings at every point where split babbitt or roller bearings are commonly used. It has sure-fire magneto ignition. It is water-cooled.

It runs with steam-engine steadiness. That is why light direct from the generator is as unflickering as from the battery.

There seems to be no wear-out to this engine. Lalley-Light plants installed more than seven years ago are giving today the same good service they gave in their first year.

This record shows Lalley-Light reliability as nothing else can show it.

Lalley-Light brings electricity to the farm—unlimited light and power in their **safest, surest** and **simplest** form.



Generating plant is 27 inches long, 14 inches wide, 21 inches high. Storage battery is included in complete outfit.

It gives you clean, bright light whenever and wherever you **want** it.

Its power will run the pump, separator, churn, grindstone and other small machinery at a cost of a few cents a day.

Lalley-Light furnishes electric current from **two independent sources**—generator and storage battery—actually giving the service of two plants for the cost of one.

It saves labor and improves living conditions. It increases the value of your property; it reduces fire risk and insurance rates.

This is the time to figure on installing Lalley-Light.

Write us for the illustrated booklet describing completely Lalley-Light for your home.

If you desire, we will also advise the name of our nearest branch sales office who can show you this efficient plant in operation.

Lalley Electro-Lighting Corporation

1843 Mt. Elliott Ave., Detroit, Mich.

LALLEY-LIGHT

THE BALL-BEARING ELECTRIC LIGHT PLANT

Boys' and Girls' Club Doings

WESTERN SLOPE GIRL CANNED 683 QUARTS

BOYS' AND GIRLS' GARDEN AND CANNING CLUBS

We old folks can recall the time
When things were put away in brine;
When rutabagas, spuds and beets
Were put away for winter eats;
The cellar then was like a mine.

We had a lot of bacon red,
And home-made 'lasses for the bread;
And hams and kraut and jams and lard,
Pickles and chard and cider hard,
And old and young were all well fed.

Those good old days are coming back,
Our girls and boys have learned the knack
Of storing, drying, canning stuff,
So now we know there'll be enough
To give high cost an awful whack.

—W. E. Vaplon.

THE preachers tell us that there is no evil so evil but that good may come from it. Maybe they're right, for surely none but the blind will fail to see the response of the American people to the appeal for aid, conservation, economy, self-sacrifice and thrift, this appeal coming as it did, because of the want and suffering brot on by the war. It has long been our theory that people will DO when they must, when they see a real necessity for action, and not until then. To myself, at least, this theory is being proven more than a theory. In real earnestness and freely, we are doing the things that reformers and educators have been trying, ever since the days of the early pioneers, to make us do. While there was more than enough to fill our needs, we spent more than necessity demanded; we were extravagant, indifferent to the morrow, almost shiftless, living from hand to mouth, from day to day. Now there is not too much, today only enough and tomorrow there may be too little to provide even the necessities of life; and we are taking it all, as we take prosperity or adversity, wealth or poverty, health or sickness, life or death, philosophically, calmly, as a matter of course.

The response of the girls and boys, not only to the call for greater production, but for conservation of the foods so much needed by our soldiers and allies, has been splendid. During the year 1917 our garden club members produced (in money value) more vegetables than all our club members produced in all the crop projects, in 1916.

Better than the increase in production is the saving by canning and drying of products that often are allowed to spoil. They canned over 15,728 quarts of vegetables, fruits and meats. At the present time we have no knowledge of the amount of garden products that were dried, but the amount is considerable. They produced in their gardens $19,148.25 worth of vegetables. One-third year gardener, whose first year's business was $44.00, this year produced $174.00 worth of vegetables on five city lots. The children of the Myron Stratton home, Colorado Springs, canned 2,250 jars of garden products; a big job with a most valuable lesson combined.

Garden club members must keep records, make an exhibit and write a story of the season's work, so the training they undergo makes them familiar with good business management. The work helps them to earn money while going to school; teaches co-operation because of the group working together with a common purpose; encourages friendly rivalry; helps to bind boy and girl to the interests of the home. Every Colorado boy and girl ten to eighteen years of age is eligible to membership. Bulletins on gardening and canning, record blanks, etc., are furnished free to members.

Further information can be had by addressing State Club Leader, Fort Collins, Colo.

Girl Canned 683 Quarts

Housewives who pride themselves on their efforts at food conservation may feel humbled when they hear the record of Lucile Smith, a thirteen-year-old Grand Junction girl, who during 1917, put up 683 quarts of fruit and vegetables. Lucile is a pupil of the Appleton school, and lives on a fruit farm, where there was plenty of material to work with. She had the record for quantity in 1916, when she put up 415 quarts, but in 1917 she far surpassed that. Her total for the two years is 1,098 quarts. Besides putting up this food she also grew considerable of it on her own garden plot. The story of her work is told in a report to the State Club Leader, which follows:

By Lucile Smith, Grand Junction, Colo.

Jan. 1, 1917, our Girls' Canning Club was organized. I enrolled as a member because I wanted to learn how to grow a garden and can fruits and vegetables. I also thot it would be a pleasure as well as a help to my mother. On January 4th, under my mother's directions, I made and canned 31 quarts of mincemeat. During the months of January, February and March I canned apples and squash from the cellar; also beans and pork.

My garden plot consisted of one-twentieth of an acre of heavy loam. My 12-year-old brother and I applied one ton of barnyard manure. My father plowed it for me, after which I harrowed and floated it.

March 18th I planted the entire plot to Alaska peas, using 15 pounds of seed.

Our gardens here depend on irrigation, and as the water had not yet been turned into the canals and the ground was too dry to sprout the seed, I first made my furrows 18 inches apart. I then hauled three barrels of water, and with a pail poured it in the bottom of the furrows. In spite of this, the ground became too dry before I had access to irrigation water, and the stand of peas was not extra good. I watered and cultivated it at intervals of two weeks.

Between June 15th and June 30th I sold $18 worth of peas, receiving 15 cents for the first and 10 cents for the last ones sold.

I then disked up the patch and July 1st planted it to Golden Bantam sweet corn. I cultivated it, watered it twice and during the month of September gathered 44 dozen roasting ears, which I canned for home use. The market price at this time being 25 cents a dozen, this would have brot me $11, the total being $29 worth of vegetables grown in my garden this summer.

I continued canning from my garden and orchard all summer and fall and have, up to date, 683 quarts. My vegetables and rhubarb I canned the cold pack method, and my fruit I canned the syrup method.

Last year I also grew a small garden and canned 415 quarts. The 1,098 quarts canned for home use, if sold at 25 cents a jar, would have brot me $274.50. The experience has been worth the work and has also been a pleasure. I am glad I enrolled as a member of the Girls' Canning club.

Semi Annual Report

Semi-annual report of state leader to the State Board of Agriculture:

Turn to Page 13

Lumber Bargains

Twelve Million Feet of Lumber for every purpose at prices that defy competition! Every lot an exceptional value. Don't buy a stick of lumber until you get our prices. Just imagine! Genuine Red Cedar Bevel Siding at $7.95 per 100 0feet. Cedar Drop Siding at $13.50 per 1000 feet. Shiplap at $14.00 per 1000 feet. 2 x 4 Studding at $12.95 per 1000 feet. Vertical Grain Flooring at $22.00 per 1000 feet. Everything subject to prior sale—first come, first served. Don't wait for prices to go higher.

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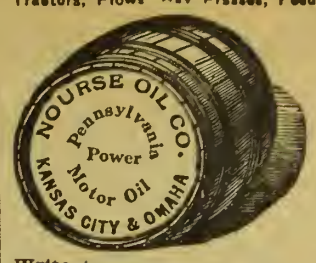

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or other lands at very low prices. Where you **can buy good farm land at $15. to $30. per acre** that will raise **20 to 45 bushels of $2. wheat to the acre**—it's easy to become prosperous. Canadian farmers also grow wonderful crops of **Oats, Barley and Flax. Mixed Farming** is fully as profitable an industry as grain raising. The excellent grasses, full of nutrition, are the only food required either for beef or dairy purposes. Good schools and churches, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. Immigration, Ottawa, Can., or to

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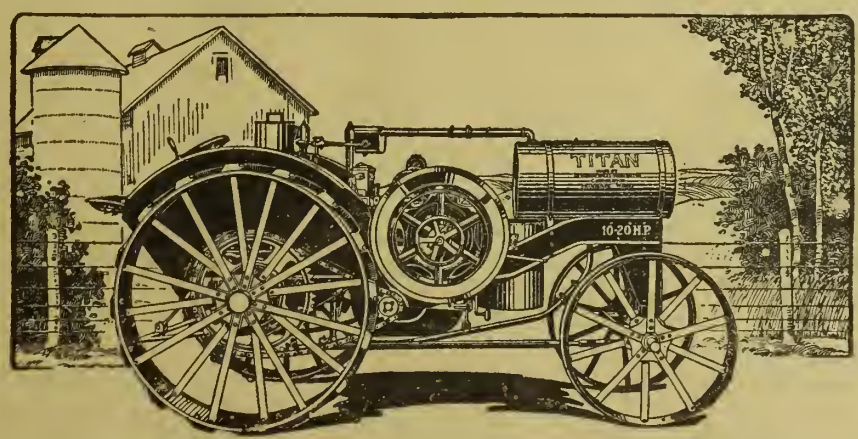
Keep this service feature in mind when you come to buy your tractor. It applies equally to our **Mogul 10-20-h. p., Titan**



themselves. **International, Mogul,** and **Titan** kerosene tractors meet all three of these demands.

International Harvester tractor owners get, through our 89 U. S. branch houses, a service that enables them to keep their tractors going whenever there is work for them to do. It includes necessary instruction in the care and handling **10-20-h. p.** and **International 15-30-h. p.** tractors. It will be difficult for us to furnish your tractor as soon as you want it. The demand is hard to keep up with and shipping facilities are very much handicapped. Send for catalogues now, make your decision as soon as you can. Be ready for the heavy rush work of early spring.

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Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

BREEDING FOR SPRING LITTERS

I am going to break into my series of Animal Breeding articles once again to take up a special topic, and that is, the necessity of swine breeders planning to raise just as many pigs as they can handle to good advantage next spring. I believe most farmers who have been producing pork are already planning to do that, but there probably are a number who are still in doubt as to whether they can afford to take the risk of growing more hogs for next year's market, considering the present outlook with regard to feed costs.

I want to give you the situation as I look at it, and I believe it justifies a liberal pork production, even tho we cannot count with certainty on remunerative pork prices next year. There is very little that we do in the way of livestock raising that can be guaranteed to return certain profits, but I believe with Mr. Hoover, that American farmers will do their share in taking chances, if they are given an even break with regard to market. The situation as it stands now is this: A special committee composed of experienced hog growers from farms, and of men familiar with figuring all costs of pork production, made a very full study of the relation of pork prices to the price of corn, from the Civil war to the present time. They showed in their report that in order to secure an increase in pork production it was necessary for the price of 100 lbs. of pork to equal the price of thirteen bushels of corn. This is the thirteen to one ratio that is so frequently spoken of.

The Food Administration published the report of this committee, apparently approving it, and the United States Food Administration, Meat Division, made the following statement: "We have had, and shall have, the advice of a board composed of practical hog growers and experts. * * * That board has given its judgment that to bring the stock of hogs back to normal under present conditions, the ratio should be about thirteen; therefore, as to the hogs farrowed next spring, we will try to stabilize the price so that the farmer can count on getting for each one hundred lbs. of hog ready for market, thirteen times the average cost per bushel of the corn fed into the hogs."

We may, without question, accept the good faith of the Food Administration in backing this policy as far as they are able. Hogs are scarce in the United States. The country is something like five million short of 1914; we estimate Colorado at about forty per cent short of 1914. If any of you have been hesitating on the hog problem, these facts should enable you to make up your mind to breed right away for spring farrow. Pigs farrowed by the first of May can be put on the market by the end of October, by growing them on alfalfa pasturage, or any other pasturage that is available, and feeding them liberally of grain, in addition. Even with grain high in price you can afford to push your young stuff so as to market it by the first of November; because you can grow barley in this state, or secure it at an early enough date to finish off your hogs at this time, and barley the past year has ruled far lower in price than corn. With this scheme in mind, you will see the necessity of having the pigs farrowed as early as possible. Another month will be too late to carry out that scheme to advantage. There is a tremendous demand for breeding stock of both sexes. Those who have not secured their boars should do so at once, as there will be mighty few to be obtained after the middle of January. You can run your sow, after she is bred, without too heavy a feed cost by feeding alfalfa hay, roots—if you have them—or a little corn silage, and grain to the extent of about two per cent of her live weight per day until she is within six or eight weeks of farrowing, and then she should be fed sufficient grain to keep her gaining in weight a little, up to farrowing time. This will insure a good strong litter.

If you have any question with regard to some of the new feeds that are being sold now in the state, such as gluten feed, hominy feed, etc., we shall be glad to help you out in the matter of balancing a ration so as to furnish as cheap feed as possible.—G. E. Morton.

Keep the Tax on Oleo

Word comes from William T. Creasy, secretary of the National Dairy Union, that another effort is being made to take off the ten cent tax on colored oleomargarine, this time in the alleged interest of the consumer who, by that means, is to be enabled to buy a butter substitute at a reasonable price. The usual argument is put forth by the manufacturers of "bull butter" to the effect that removal of the tax on col-

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IT HAS NO EQUAL

For the Human Body — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

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A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Sore Lungs, Rheumatism and all Stiff Joints

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300 Sick Sheep In One Flock Saved by CAREY-IZED Stock Tonic Brick

Enthusiastically endorsed by leading veterinarians and stock raisers.

G. W. Thompson, manager of the Fred Mellick sheep ranch, near Hutchinson, Kansas, writes: "Mr. Mellick had about 300 sheep that were scouring badly and in run-down condition. We got a hundred Carey-ized Stock Tonic Brick and fed them regularly. Those sheep are now as healthy as the balance of the flock, and a lot of them that were very puny cannot be distinguished from the rest. They are all eating their feed good and are gaining faster than any lot of sheep I ever saw."

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It is composed of eight different ingredients which nature and science prescribe and which instinct impels animals to seek when ailing. Contains powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbinized peat, quassia, charcoal and pure dairy salt. Equally good for sheep, hogs, cows or horses.

A powerful worm destroyer and conditioner. Aids digestion, keeps bowels, kidneys and liver in order, purified the blood, builds up the entire animal system so it resists all disease. Thousands of feeders testify to its efficiency.

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Order a dozen or more brick from your dealer; let your sheep and other livestock have free access to it for 30 days. If not satisfied with the result, return what you have left and get all your money back. If your dealer does not handle Carey-ized Stock Tonic Brick write us his name and we'll see that you are supplied.

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Please send me full information on Carey-ized Stock Tonic Brick, also Free Book, "Making Livestock Pay."

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National Western Stock Show

Denver, January 19 to 26, 1918

PUBLIC SALE OF REGISTERED ABERDEEN ANGUS CATTLE

STOCK SHOW ARENA, WEDNESDAY, JANUARY 23, 9 A. M.

ANNOUNCEMENT

The public sale of the American Aberdeen Angus Breeders' Association will consist of fifty head from the well-known herd of Hadley Brothers, Indianola, Nebraska. These cattle are suited to the purse of everyone; cattle for the ranchman, the small farmer and for the breeder who is trying to develop a winning show herd. These cattle have been grown under Western conditions in a short grass country and are selected by the Association because of their special adaptation to the West.

There will be twenty-five females, ranging in age from ten months to six years; about four of each age respectively. There will be twenty-five bulls from fifteen to thirty months of age. The bulls are a fine lot of young animals, big boned, thick fleshed and true to the type. They will be suitable either for ranch work or for sires of the breeding herd on the ranch. They are just the right age and are ready for service.

The females are all of the real Angus type, big boned and thick. Six or eight of them will have calves at foot at the time of sale. All old enough to calve will be well along, showing heavy in calf.

The sale is conducted under the auspices of the American Aberdeen-Angus Breeders' Association.

The sale will open at 9 o'clock a. m., Wednesday, January 23, in the arena of the Stock Show Amphitheater.

Colonels Ruppert and Snell will be the Auctioneers.

For catalogs and full particulars address Charles Gray, Secretary, The American Aberdeen-Angus Breeders' Association, Union Stockyards, Chicago, Ill., or Hadley Brothers, Indianola, Neb.

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KEEN KUTTER Farm Tools are scientifically designed to give that easy swing called "the proper hang" and to carry just the right amount of load for untiring speed in use.

Only the best quality of steel and straight-grained hickory handles are used in the making. And special strength-giving features of construction add another reason for our guarantee—*"Satisfaction or your money back."*

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ored oleo would reduce the prices of cream, butter and milk.

Anyone at all familiar with the dairy industry is capable of understanding that nothing of the sort would happen. That, in fact, the effect would be just the opposite, for if colored substitute is allowed to be sold without tax restriction it would result, first, in a return of fraudulent practices that were responsible for the tax and, second, in running the price of real butter and all other dairy products to a prohibitive point because dairymen would find it increasingly difficult to make ends meet. The cost of production now is so high that hundreds of dairy herds in the coun ry have been dispersed. To allow the unrestricted sale of butter substitutes would merely increase the troubles and costs of the dairy farmer to a point where he would be forced out of business. Mr. Creasy's pointed comment is as follows:

"Anyone that thinks that oleo is going to get cheaper when they have a right to color it is either saying what he does not believe, or has a stagnant brain covered with a green scum. Oleo has been admitted into Canada for the war period with the express understanding that it shall not be colored."

If Congress should listen to the oleo manufacturers it would mean the virtual ruin of thousands of farms and farmers who are dependent on the cow for their living and for the upkeep of the fertility of their soil. Food value considered, dairy products are at a fair price level from the consumer's standpoint ,especially in the west. The producer is making less profit than he did during normal times, but he will hold on to his cows if given a fair market. He cannot, however, survive if the unfair competition of fake butter is thrust upon him.

Boys' and Girls' Club Doings

Continued From Page 11

The past six months has seen the completion of the eight club projects now being promoted. The accompanying chart tells the story in figures. The work was organized in eighteen counties. In ten other counties some clubs carried on the work.

Twenty-one people were employed by school boards and civic organizations to supervise club work of some kind.

No clubs are organized unless local leadership is assured. The local leader may be the teacher or some parent or interested adult.

During June, July and August, three extra helpers were employed to give canning demonstrations; 621 club members and 6,804 others attended these demonstrations. Five thousand requests were received by mail or thru demonstrators for bulletins on canning, storing and drying vegetables and fruits. Field demonstrations, in seed selection, etc., training schools for club leaders, club fairs both local and county, were held. Eighty-two visits to club plats were made.

An average of about two-thirds of the time of Mr. Vaplon and Miss Sheridan is spent in the field. Correspondence and preparation of club material necessitates the spending of considerable time in the office. Miss Smith, the assistant appointed July 1st, gives her entire time to field work.

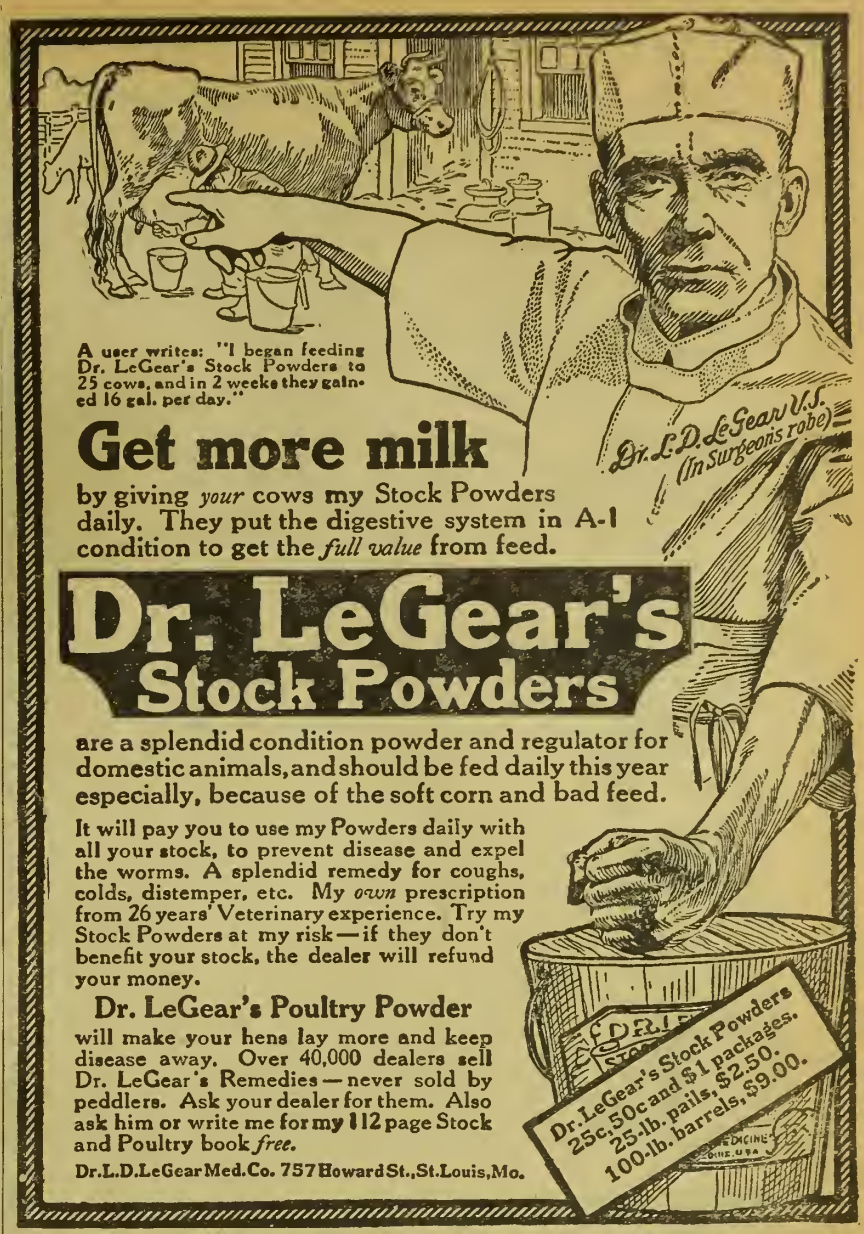
We are sending to each newly enrolled member forms 11 and 12, copies of which are enclosed for each member of the board. Ninety per cent of those enrolled for the season of 1918 have signed the pledge card. We trust the members of the board will read this letter and pledge card and that we may have their approval.

Comment by Farmer Putnam

Continued From Page 9

is three thousand miles from the battlefields; that I kin help in some little way to relieve sufferin' and make the war shorter. I'm fur puttin' all the profiteers where they belong and where they'll go when they die—in the bottom pit of hell—but I ain't goin' to make the mistake of gittin' bullheaded and refusin' to grow crops because our government hain't got all the kinks straightened out yet. You cain't make a trust good in six months; some never will git good; all of 'em has to be watched all the time because they're founded on greed and selfishness, but as fur me I'd a heap ruther sell my food at cost of production and have the consciousness of playin' square with T. J. P. and the world at large then make a big profit on it and feel like some of them profiteers will feel when they git before the judgment seat. Don't fool yourself, God don't keep 'em waitin'. They git their desserts as fast as they earn 'em. And me and you git ours the same way, be it good or bad.

THOMAS JEFFERSON PUTNAM.



Hereford and Guernsey Heifers

We are offering for sale three good yearling Hereford heifers, in order to reduce our herd. Two of these are by Heirs Anxiety. The dam one of these heifers was sired by The Heir, and the dam of the third is by Heir Apparent. Will be sold cheap if taken soon.

Two young Guernsey cows also for quick sale. Both sired by Imp. Polonious, a prize winner at the National Western Stock Show.

This is a good chance to get pure-bred breeding stock at low cost.

Also some Poland China and Duroc Jersey boars of July farrowing. Spring boars all sold.

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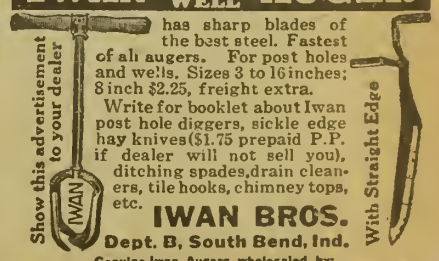
Treat your seed oats before seeding again with the Imperial Smut Machine, the only perfect Smut Machine made. Guaranteed that you will have no smut in your grain next fall. If you have we will refund your money in full. Isn't that fair? We also have a machine that takes wild oats out of tame oats for seed, and the best cleaner and grader for all grades. All machines trial guaranteed. Write us.

MINNEAPOLIS SEPARATOR CO.
306 Erle Street Minneapolis, Minn.

IWAN POST & WELL AUGER



has sharp blades of the best steel. Fastest of all augers. For post holes and wells. Sizes 3 to 16 inches; 8 inch $2.25, freight extra.

Write for booklet about Iwan post hole diggers, sickle edge hay knives ($1.75 prepaid P.P. if dealer will not sell you), ditching spades, drain cleaners, tile hooks, chimney tops, etc.

Show this advertisement to your dealer
With Straight Edge

IWAN BROS.
Dept. B, South Bend, Ind.

Genuine Iwan Augers wholesaled by: Moore Hdw. & Iron Co., Denver; Holmes Hdw. Co., Pueblo, Col.

Why We Should Use More Milk

STATE WAR COUNCIL IS PUSHING CONSUMPTION

Use More Milk

Circular on the Use of Milk, prepared by WESTERN FARM LIFE for the Women's Section of the Colorado Council of Defense:

Milk is the most important article of the human diet and the nearest perfect of all foods.

Without milk the human race would cease to exist.

All civilized peoples use the milk of farm animals. In the tropics it is furnished by the water buffalo, the desert dweller has his cameis' milk; in the Andean country the native thrives on the milk of the gentle llama, while the Alpine herder milks the goat and the Eskimo of the Arctic looks to the reindeer for his supply.

Milk contains all of the four elements of nutrition—protein, fats, carbohydrates and mineral matter—in the right proportions to make a balanced food.

Its liquid form adapts it to many economical uses for the table.

To stint in the use of milk in the household is to stunt the growth of the rising generation.

At double its present cost milk would still be an economical food.

There is as much protein in 2.4 quarts of milk costing the consumer 24 cents as in one pound of sirloin steak, costing 30 cents; as much fuel value (energy) in 1.6 quarts of milk costing 16 cents as in one pound of sirloin steak at 30 cents. And milk contains twice as much bone-forming material as beef.

Butter and cheese, the chief by-products of milk, are necessary and nourishing foods which, even at high prices, are economical for table use. One pound of butter will furnish three and two-thirds times as much energy as a pound of sirloin steak. Even the humble cottage cheese, made from skim milk, contains in one pound as much protein as there is in 1.27 pounds of sirloin steak.

Upkeep of the soil, and thru this the very life of the nation, depends upon the fertilizer produced by the dairy cow.

There are 22,000,000 dairy cows in the United States that produce, normally, to a value of one billion dollars. Only the corn crop exceeds dairy products in normal annual value. This does not reckon the value of the manure which, when we consider the future, is of more importance than the direct income.

The dairy cow must be well fed (and feed prices are abnormally high, as is everything else) if production is to be kept up. This necessitates a just return for the dairy farmer, because he cannot live off the indirect revenue—the fertility—but must have a cash income.

The dairy cow uses up rough feeds easily grown under our light rainfall conditions, derives much of its sustenance from our summer grasses, but must have high priced concentrated protein feeds in winter to produce milk. These feeds have advanced from 100 to 150 per cent, while even hay is from 60 to 100 per cent higher than before the war.

This condition has so increased the cost of keeping up dairy herds that many dairymen have been trying to sell out; some have succeeded in selling, forced to do so by falling off of milk consumption in Colorado and the increasing price of feeds. A patriotic appeal to these farmers is bringing good results and co-operation of the consumer will relieve the strain wonderfully.

There are many reasons why the use of milk and its by-products is advisable, especialnuly in a region where these are one of the mainstays of agriculture.

Every quart of milk consumed in the home reduces the consumption of meats, so badly needed for shipment abroad.

To stop using milk freely weakens the vitality of children, robs adults of a nourishing and economical food, taxes the pocketbook for higher priced substitutes needed by the nation and her allies and ultimates in decline of the dairy industry, which is the foundation of our soil fertility. Self-preservation, patriotism, health considerations, economy and the Golden Rule of true co-operation in winning the war, all demand the continued use of milk in the home.

The dairy cow is our most prolific producer of human food. In one year a Holstein cow in the herd of the dairy department of the Missouri State University produced more human food in her milk than is contained in the carcasses of four steers averaging 1,250 pounds each, her total production being 18,405 pounds.

A cow owned by the Western Holstein Farm of Denver has an official record of 1,012 pounds of butterfat in one year; this means 1,200 pounds of butter produced from her milk in one year.

Another world famous cow, Katy Gerber, with her descendants, both male and female, in seven milking periods, produced an income from milk, butter and veal of $18,703.10.

Encourage the producing cow. Our Colorado dairy herds added $11,000,000 to the state's direct income in 1917. The industry needs your patronage and is worthy of it. You get more for your dollars individually as householders and collectively as citizens, when you buy dairy products than from any other investment.

According to government statistics, Colorado had on its farms January 1, 1917, 237,000 head of dairy cattle, at an average value per head of $73.50, a total of $17,419,500. An industry of such magnitude should not be allowed to lag because of a misunderstanding of conditions.

Oil Cake Shortage in England

Owing to difficulties in transportation from India, Great Britain is suffering from a shortage of cottonseed. Oil cake is to be sold only as feed for dairy cows and pedigreed cattle. Although the Egyptian crop of cottonseed has been bought by the British government for distribution in England, the general scarcity of cottonseed has caused a steady advance in oil prices. Many of these prices long ago reached the maximum set by the Food Controller and a higher schedule of prices is expected soon.

Dry Feet and Warm Feet

are simply a matter of rubber and wool. For the best protection and the longest wear buy "Ball-Band" Vacuum Cured Footwear which is practically one solid piece. The Red Ball Trade Mark is on every "Ball-Band" boot, arctic, and rubber. Look for it.

Worn by nine and one-half million people and sold by 55,000 dealers. Write for booklet, "More Days Wear."

MISHAWAKA WOOLEN MFG. CO.
336 Water St., Mishawaka, Ind.
"The House That Pays Millions for Quality"

$17.95 Upward ON TRIAL
American FULLY GUARANTEED CREAM SEPARATOR

A Solid Proposition to send new, well made, easy running, perfect skimming separator for $17.95. Skims warm or cold milk; heavy or light cream. Different from picture, which shows larger capacity machines. See our plan of

MONTHLY PAYMENTS

Bowl *a sanitary marvel* easily cleaned. Whether dairy is large or small, write for free catalog and monthly payment plan. *Western orders filled from western points.*

AMERICAN SEPARATOR CO.
Box 4100 Bainbridge, N. Y.

30 DAYS FREE TRIAL

and *freight prepaid* on a new 1918 "RANGER" bicycle. **Write at once** for our *big catalog* and *special offers*. Take your choice from 44 styles, colors and sizes in the famous "RANGER" line.

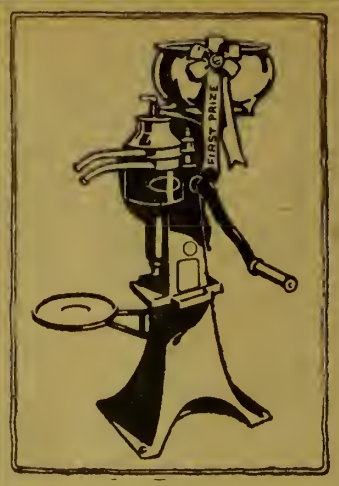
Marvelous Improvements. Extraordinary values in our 1918 price offers. *You cannot afford to buy* without getting our *latest propositions* and **Factory-Direct-to-Rider** prices and terms.

Boys, be a "Rider Agent" and make big money taking orders for bicycles and supplies. Get our *liberal terms* on a sample to introduce the new "RANGER".

TIRES, equipment, sundries and everything in the bicycle line at *half usual prices. Write Today.*

Ranger Electric Lighted Motorbike

MEAD Cycle Company Dept. T-304 Chicago



A PRIZE WINNING CREAM SEPARATOR

THE **DE LAVAL CREAM SEPARATOR Is a Winner!**

Why don't you let it win for you?

AT the great national and international expositions, the juries have invariably acknowledged the superiority of the De Laval. They awarded the Grand Prize, the highest possible award, to the De Laval at the Panama-Pacific Exposition at San Francisco in 1915, as also at Buffalo, Chicago, St. Louis, Paris, Brussels, and all the great world expositions for more than 35 years.

What the world's greatest dairy experts, the men who operate the creameries and the big milk plants and dairies, think of the De Laval is best evidenced by the fact that 98% of the cream separators in use in such plants the world over are of De Laval make.

De Laval Produced Cream Makes the Best Butter

Since 1892 the National Buttermakers' Association has held butter-scoring contests each year in connection with its Annual Convention, and at every such Convention butter made from cream separated by a De Laval Separator has scored highest. This is a 100% record for the De Laval. No room for chance there. Only unusual merit made such a record possible.

Proof of the superiority of De Laval Separators and of De Laval produced cream has been piled up and multiplied so many times that it is no longer questioned. It is an accepted fact.

If you are without a cream separator, or in need of a better one, let the De Laval start winning a bigger cream profit for you NOW.

See your De Laval agent immediately, or if you don't know him, address the nearest De Laval main office as below for any desired particulars.

THE DE LAVAL SEPARATOR COMPANY
165 Broadway, *New York* — 29 E. Madison St., *Chicago*

EVERY NEW DE LAVAL SEPARATOR HAS A BELL SPEED-INDICATOR

A PRIZE WINNING PRODUCT

Only $2 DOWN and One Year To Pay

Easy To Clean Easy To Turn

THINK of it! For only $2 down you can now get any size of the New Butterfly Cream Separator direct from our factory on a plan whereby it will earn its own cost and more **before you pay.** You won't feel the cost. For only $29 you can buy the No. 2 Junior—a light running, easy cleaning, close skimming, durable, guaranteed separator. Skims 95 quarts per hour. We also make five other sizes of the

$29 NEW BUTTERFLY

up to our big 800 pound capacity machine shown here—all sold at similar low prices and on our liberal terms of **only $2 down and a year to pay.** Every machine guaranteed a lifetime against defects in material and workmanship.

30 DAYS' FREE TRIAL

You can have 30 days' FREE trial and see for yourself how easily one of these splendid machines will earn its own cost and more before you pay. Try it alongside of any separator you wish. Keep it if pleased. If not you can return it at our expense and we will refund your $2 deposit and pay the freight charges both ways. You won't be out one penny. You take no risk. Postal brings Free Catalog Folder and direct-from-factory offer. Buy direct and save money. Write today.

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Furs, Game Heads, Fur Rugs

Every description of Fur and Taxidermy work done true to nature. Jonas Bros.' mountings and furs have a national reputation.

Send for our Free Field Guide and Price List.

Save your Fur Skins and have us transform them into beautiful Fur Sets, Robes and Rugs.

JONAS BROS.
1017 Broadway Denver, Colorado

GURNEY'S GUARANTEED
SEED CORN

It Will Pay
You to Buy the Best

The success of your corn crop this year depends upon your planting **Good Seed Corn.** I guarantee my seed corn to test to your satisfaction; that is, on arrival of the corn, test it and if it does not test to your satisfaction, return it to me within fifteen days after you have received it, and I will refund your money together with any money that you have paid for transportation charges.

SEND YOUR ORDER EARLY

If my seed corn was not the best, I could not afford to make you such a liberal guarantee. My Guarantee absolutely protects you. Don't wait another minute but get my prices and catalog right away. Rush a postcard or letter to me at once.

D. B. Gurney, Pres.
GURNEY SEED & NURSERY COMPANY,
115 Gurney Square, Yankton, S. D.

Send for Big 1918 CATALOG

Alfalfa
Clover—Oats
Get our prices on hardy western field seeds.
Rust-proof Kherson Oats ripen two or three weeks earlier, stiffer straw. They stand up. Big yielder.
Alfalfa, Clovers, Grass Seeds and all other field seeds. Potatoes at wholesale prices. (11)

Trees and Seeds That Grow

Apple Trees 15c each, 1 year from graft or bud.
Beebe's Early Prolific Tomato—a wonderful bearer—two weeks earlier than any other.
Everbearing Strawberry—Progressive—a new fall-bearing one. Fruit smooth and good size and color. Plants strong. $2 per 100.
Sonderegger's Earliest Blackberry has more good points than any other. All kinds of fruit trees and garden and field seeds. Catalog free.
SONDEREGGER NURSERIES AND SEED HOUSE
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HELP YOURSELF
HELP YOUR COUNTRY
Every dollar you invest in good fencing is added profits and value to your farm and helping Uncle Sam
Stock can't destroy growing crops—can be turned into fields after crops are harvested and more pasturage turned into meat and milk.
Square Deal Fence
is the fence you will find returns the greatest profit because it lasts longest, looks best, takes less fence posts, costs least in the end. It stands tight and trim the year 'round—can't sag and get loose. Our catalog tells all about it. Send for it today and if you have not already received one, we will send you free a full size 50c edition of Ropp's New 1918 Calculator, both postpaid. Free
KEYSTONE STEEL & WIRE CO.
645 Industrial Street, Peoria, Illinois

BURTON'S 1918
SEED BOOK
describing BURTON'S QUALITY SEEDS
FREE on request. Write TODAY—you will find it the most instructive and best illustrated SEED BOOK issued in the WEST.
EXTENSIVE AND INTENSIVE FARMING IS A WAR TIME DUTY
Our SEED BOOK will give you the best and latest information available on WAR GARDENS, and bigger and better emergency crops.
THE BURTON SEED CO.
The MAIL ORDER SEED HOUSE of the WEST
1500 MARKET STREET DENVER, COLO.

American Mastodon Pansies
These possess the most robust vigor, largest sized flowers, superb rounded form, great substance, violet scent, and marvelous colors without limit. The quickest to bloom and most durable; the acme of perfection in Pansies. Seed, pkt. 10c.
CHILDS' GIANT KOCHIA. Most decorative annual in cultivation, pkt. 20c.
CHINESE WOOL FLOWER. Most showy of all bedding annuals, pkt. 10c.
ASTER AM. BEAUTY. Gigantic pink flowers on two foot stems. Finest Aster, pkt. 10c.
SPECIAL OFFER—These four greatest floral novelties FOR 25c, with Booklet, "How to Grow Flowers," and Catalog.
OUR BIG CATALOG of Flower and Veg. Seeds, Bulbs, Plants and new fruits FREE. We excel in quality and varieties.
JOHN LEWIS CHILDS, Inc., Floral Park, N. Y.

37,000 Tons More Silo Capacity

Silo building in Colorado has not been seriously interrupted by the war. In fact, 1917 saw perhaps more new silos erected than any previous year. The Hinman Silo Company, makers of the hollow tile silo, sold 226 during the past year, all but fifteen of which were put up in Colorado. The total capacity represented by these silos is 37,000 tons, which means just so much additional feed conserved every year and converted into beef, mutton and milk in the most economical way.

One noteworthy fact about western silos is the much greater average capacity. In the east the average is 60 tons; in this state it is 160 tons. This big difference is accounted for by the fact that most of the Hinman silos are being erected by cattle and lamb feeders, while in the east it is the small dairy farmer who builds the most silos.

Hinman silos are mostly going into the irrigation sections along the eastern slope of the Rockies.

"We were obliged to turn down 75 orders last season because they reached us too late," said Mr. C. H. Hinman. "You cannot emphasize too strongly the importance of getting orders placed early for 1918 building. Silo material, like everything else, is hard to get, transportation delays are serious and labor is high. The man who wants a silo in 1918 should, therefore, place his order now, if he wishes to be sure of having it built in time to put the next crop into it."

Determining Pregnancy of Cow

Ans. to W. R., Utah: I am enclosing a photograph of a cow with the spot marked where you can bump the calf. By pushing in sharply with the closed fist, you should be able to feel the calf bump against your fist. This is the common method by which buyers tell whether a cow is with calf. A veterinarian could determine more surely for you by feeling thru the rectum; and if you cannot satisfy yourself by the first method, I would advise you to get a good veterinarian, who knows the second method. By this method the rectum is washed out clean, and by passing the hand and arm in, the calf can be felt lying below the band. You should certainly be able to determine whether she is with calf, five months along.

Inflammation of the Bladder

Ans. to J. L. S., Wyoming: The humping and straining of your bull and difficulty in urinating points to inflammation of the bladder and should be looked after by a veterinarian immediately. The fact that the animal shows signs of bloating indicates a disturbed digestion, which sometimes causes the urine to become acid and thus sets up inflammation of the bladder.

In regard to the calf: Very often young calves are greedy and will overeat. If the symptoms of bloating are temporary and soon pass away without any further indications, it probably means irregular feeding and overeating. If accompanied by bowel trouble, either looseness or constipation, the trouble is of a more serious nature and needs the attention of a veterinarian.

High Feed Cost Forces Dairymen to Test Cows

Continued From Page 3

by the members. The hiring of a tester and the matter of feed prices should be left to the board of directors.

The following from Iowa Bulletin No. 13 on Cow Testing Associations in that state will be helpful:

"Two thousand, nine hundred and fifty yearly records from 177 different herds have been completed in the five cow-testing associations which have been organized in Iowa since 1909.

"The average cow in the cow-testing association produced 217 pounds of butterfat per year at a net profit of $32.77, after paying for the feed at market prices less the cost of hauling.

"If the 1,500,000 milch cows of Iowa produced as much butterfat per year as the average cow in the cow-testing associations, it would mean an increased production for the state of 115,500,000 pounds of butterfat per year, worth at 30 cents per pound $34,650,000.

The most profitable cow returned her owner a net profit of $125, while the poorest cow lacked $25.92 of paying for her feed.

"There were good cows and poor cows in every herd. The best cow from each herd returned an average of $55 net profit per year, while the poorest cow from each herd returned but $15.12 net profit per year.

The most profitable herd netted its owner $71.22 per cow in one year, while the poorest herd was kept at a loss of 63 cents per cow.

"Two hundred and fifteen, or 7 per cent, of the cows produced over 300 pounds of butterfat per year, while 321, or 11 per cent, were under 150 pounds. If all the yearly records had been as high as the 215 high ones, it would have meant an increased income of $91,470.00.

"The cows fed silage produced 27 pounds more butterfat and $2.86 more net profit per year than those not fed silage.

"The cows freshening in the fall produced 27 pounds more butterfat per year than those freshening in the spring and returned $7 greater net profit.

"The average net income from cows in the cow-testing associations, from two to ten years old, was $314.22, or nearly $35 per year.

"Any member of a cow-testing association can raise the production of his herd to a yearly average of 300 pounds of butterfat within six or seven years, if he will eliminate the unprofitable cows, save heifers from high producers, use a purebred sire from high producing ancestors, and give more thot and attention to the feeding and care of the animals."

According to an English dispatch, bacon is not procurable in many butcher shops in London. In shops able to secure supplies, the price ranges as high as 60 cents per pound for grades of bacon that before the war sold for 18 cents.

Stock Owners—
Here's Your Answer

What is Pratts Animal Regulator?
Not a food. A general conditioner and tonic for horses, cattle, sheep and swine of all ages. A health builder and preserver.

What does it contain?
Medicinal herbs, roots, etc. Natural tonics, appetizers, digestives, blood-purifiers, worm-expellers. A scientific, perfectly-balanced combination needed by working, producing and growing animals.

What does it do?
Pratts Animal Regulator improves and preserves health and, *in a natural way,* increases strength, growth and production. Prevents most diseases. Saves feed by aiding digestion. Makes rich, red blood and improves circulation. Regulates the bowels. Expels irritating worms. Makes livestock more profitable.

Does it give satisfaction?
Satisfaction guaranteed or money refunded. The user to be the judge. America's original stock tonic and conditioner, widely used for nearly fifty years.

How is it used?
Daily, in small quantities, mixed with the feed. Full directions with each package.

What does it cost?
The price is low—large packages most economical. Pratts Animal Regulator actually *costs nothing,* since increased production returns the investment with *big profits.*

Where can I get it?
From 60,000 Pratt dealers. There is one near you. Direct from manufacturers, prepaid, if your dealer can't supply you.

Can I learn more about it?
Yes! Write the Pratt Food Co., Philadelphia, for valuable FREE BOOK on profitable management of live stock. Mail your request today.

PRATT FOOD COMPANY
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Pratts

FREE Seed Catalogue
Grow bumper crops this year. Buy only guaranteed, tested seeds.
Both farm and garden seeds will be scarce this season.
It will pay you to place your order early and avoid disappointment.
TWO SPECIALS—Western Grown Sudan Grass, Pedigreed Grimm Alfalfa.
Our new 1918 catalog is complete and gives full information regarding crops most profitable to Western farmers.
Your copy is all ready to mail. Send for it. It's free. Dept. A.
THE WESTERN SEED CO.
DENVER, COLO.

GOOD SEEDS
GOOD AS CAN BE GROWN
Prices Below All Others
I will give a lot of new sorts free with every order I fill. Buy and test. Return if not O. K.—money refunded.
Big Catalog FREE
Over 700 illustrations of vegetables and flowers. Send yours and your neighbors' addresses.
R. H. SHUMWAY, Rockford, Ill.

WITTE
"Kero-Oil" Engines
Immediate Shipment—All Styles—2 to 22 H.P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.
WITTE ENGINE WORKS
2644 Oakland Ave., Kansas City, Mo.
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I Save You $15 to $200

The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Strike hands before you part, Old Year and New,
And to each other give a tithe of grace,
For all that of chastened sorrow grew,
And all the future leaves for us to face:
May Heaven's protection hedge our pathway round,
And thots for others be the fruits we strew,
Till, putting by our own unseen heart-wounds,
Care for God's creatures crown the year's review.
—Margaret E. Bisland.

When this issue of Western Farm Life reaches our good friends many of us will be about to enjoy the Farmer's and Farm Women's congress at the Agricultural college and we shall hope to see and exchange thrift plans with at least one delegate from each community of our county and state. Surely never have we had such joy at the thot of the real help and inspiration to be obtained from the coming together of our rural women for conference and to promote better and happier living as at this time.

Unpatriotic at Table

St. Paul's advice, "Whatever is set before you, eat," seems difficult to practice, judging from the oft heard remarks in these days when it becomes the patriotic duty of the mother to train her family to new ways of economy and thrift and at the same time set before the members of that family such food as shall nourish and satisfy, three times a day.

How often a chance visitor makes miserable the woman at whose table he sits by his inability to eat half of the dishes that are set before him. Not that these particular foods do not agree with him, but simply that he "does not care for them"—such as fish, (unless fried), tomatoes, raw or cooked, potatoes (except when mashed), fruits of all kinds, except peaches and desserts, except fresh apple pie. One woman never eats salads and her children just despise soups. The early training of the persons surely must be at fault.

Do we ever allow our children to say they "don't like this" or "won't eat that?" Only recently the writer heard a mother speak rather proudly of the fact that her children possessed very fastidious appetites, and of the impossibility to suit her family, try as she would. Unless a child is made ill by a certain article of food, he should be encouraged to eat it.

A child of six who had many whims and notions paid a visit to a grandmother, a grandmother wise and loving. The first course at his first meal chanced to be strawberries. The child shook his head as a saucer of the sugared fruit was placed before him.

"I don't want these, grandma," he said.

"Very well, dear," was the reply and no further notice was taken of the declinature.

The child continued to eye distastefully the saucer of berries, and soon remarked, "Grandma, I'm tired of strawberries."

"Yes, dear," was the only answer.

"Grandma, aren't you going to give me anything in place of these?"

"No, dear, of course not," gently but firmly.

"Not even a piece of cake?"

"Not even a piece of cake."

"Then," with a sorry attempt at a laugh, "I suppose I'll have to eat my berries!" This he proceeded to do with zest.

Most unpatriotic sounds the too common expression, "I do not like that," and should be forbidden at the family table, and if from any personal idiosyncrasy, a child is really unable to eat certain dishes in which other members of the family indulge, it is better that the child be trained to keep a respectfully silent attitude toward the peculiarity that is his misfortune, not a virtue.

Recipes Asked For by Subscribers

St. Charles Corn Bread.—Beat two eggs without separating until very light. Add to the eggs one pint of sour buttermilk, one pint of cornmeal, one tablespoon of melted butter, one teaspoon of salt and one teaspoon of soda, dissolved in one tablespoon of hot water. Beat hard for a moment and bake in a shallow pan in a hot oven.

Carolina Cornmeal Rolls.—Mix one pint of finely ground white cornmeal and one scant tablespoon salt. Drop in one-half of a tablespoon of butter and pour over sufficient boiling water to make a very stiff dough. As soon as it can be handled work it well with the hands, make up into oblong rolls and lay in a pan thickly sprinkled with dry cornmeal. Bake from half to three-quarters of an hour in a hot oven. When well made they will split open on top during the baking.

Browned Hominy.—Wash and season with salt and three tablespoons of melted butter one pint of cold boiled hominy. In a frying pan melt and heat one teaspoon each of lard and butter. Shake the pan until hot and well greased and then turn in the hominy. Cover closely and draw back where it will not burn. When hot thru, uncover and draw the pan forward and turn 'round and 'round until the bottom and sides are well browned. Loosen the edges and turn upside down on a hot platter.

Hominy Muffins.—The leftover hominy which is set aside for muffins should be moistened with milk the night before and well beaten until smooth, thus saving time in the morning. Or, better still, thin when taken from the fire after breakfast. This, however, is advisable only in cold weather unless water is used in place of milk.

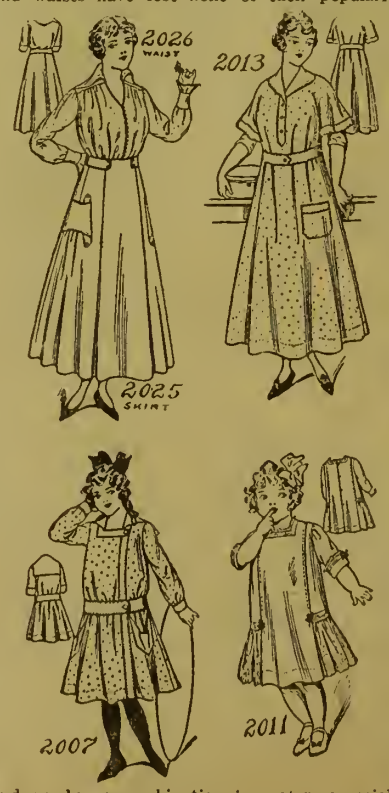
Care of Breakfast Foods.—During the winter it is possible to keep on hand quite a variety of breakfast foods without danger of their moulding or becoming wormy. After opening the packages put them into covered glass jars and label them; this keeps out dust and insects and enables one to see at a glance when a fresh supply is needed. The various preparations of oats and corn are especially useful in winter; in summer they are too heating. For the same reason, we can now indulge freely in corn muffins, cornbread and other toothsome preparations having a basis in fine cornmeal.

Baked Indian Pudding.—Rinse out a saucepan with cold water; pour into it one quart of milk and heat slowly to the boiling point. Sift into it one cupful of cornmeal, stirring vigorously to prevent lumping. When well thickened, add one teaspoonful of salt, cover and cook over hot water for half an hour, then set aside, still covered, until partly cooled. Add one-half cupful of molasses, two tablespoons of finely chopped beef suet, one teaspoon of sifted ginger, one teaspoon of cinnamon and one pint of cold milk. Turn into a greased earthen baking dish, pour over the top a second pint of milk and bake in a slow oven for four hours.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

Splendid Style for Home Wear. Waist 2026—Cut in sizes 34, 36, 38, 40, 42, 44 and 46. Skirt 2025—Cut in sizes 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Separate skirts and waists have lost none of their popularity,



and surely no combination is neater, especially for general wear than a neat waist of linen, crepe or other seasonable material, and a skirt of serge or cloth, linen or taffeta. In the combination here portrayed the waist has the popular yoke extension, below which the fronts are full and gathered. This gives comfort and ease, and is very becoming, especially to slender figures. The sleeve in wrist length has a deep shaped cuff to which a flare section may be added. This illustration calls for two separate patterns at 15c each.

2013—Ladies' Apron Dress. Cut in sizes 34, 38, 42 and 46 inches bust measure. Requires 5 yards 36-inch material for 34-inch size. This model is comfortable and easy to develop, easy to wear and easy to launder. Percale, gingham, crepe, lawn and alpaca are good for this style.

2007—Neat and Becoming One-Piece Dress. Cut in sizes 4, 6, 8 and 10 years. Requires 3¾ yards 36-inch material for 6-year size. This style is good for percale, chambray, gingham, serge, gabardine lawn and linen.

2011—Simple and Pretty Child's Dress. Cut in sizes 2, 3, 4 and 5 years. Requires 2½ yards 36-inch material for 3-year size. Lawn, nainsook, batiste, dimity, "allover" embroidery, cashmere, nuns' veiling, challie, silk and albatross are good materials for this style. The model is made with panel sections in back and front and is lengthened at the sides by gathered skirt portions. The sleeve may be short, with a turn-back cuff, or finished at wrist length with a band cuff.

Housewives are once more warned against persons who, it is reported, have attempted to buy, tax or carry away home-canned products, claiming that they are representatives of the Food Administration. These persons are imposters.

WONDERFUL EGG PRODUCER

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit-maker, write E. J. Reefer, Poultry Expert, 4241 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today, or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—Adv.

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Annual enrollment now over 1,200. Twenty-four teachers, thoro business courses that prepare for office and government positions. An average of 200 calls per month for office workers. Course in Farm Bookkeping a specialty. Write for catalog.

Note—While attending the Stock Show we suggest that interested young people and parents visit the school.

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400 Candle Power Portable Lamp

Costs only one-third cent per hour to operate. Handsome, neat and convenient. Nickel plated and highly polished. Last a lifetime. Just the thing for a farm home. Economical. Write for free illustrated booklet describing this and 50 other gasoline lamps.

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Agents wanted; big profits

THE ORIGINAL CHEMICAL Indoor Closet
30,000 SOLD—FIFTH YEAR
More Comfortable, Healthful, Convenient
Eliminates the out-house, open vault and cess-pool, which are breeding places for germs. Have a warm, sanitary, odorless toilet right in your house. No going out in cold weather. A boon to invalids. Endorsed by State Boards of Health.
ABSOLUTELY ODORLESS
Put It Anywhere In The House
The germs are killed by a chemical process in water in the container. Empty once a month. No more trouble to empty than ashes. Closet absolutely guaranteed. Guarantee on file in the office of this publication. Ask for catalog and price
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Odorless and Sanitary
A warm, sanitary EZ-MT Indoor Toilet placed in your home on 30 DAYS TRIAL. No waterworks, no sewer. Simple, clean, durable. Real health-saver. Sick-room necessity. Small cost. Write for free literature
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Veterinary Instruments
Abdominal Belts
Invalid Chairs, Crutches, Sick Room Supplies
Write today for measurement blank
The J. Durbin Surg. Supply Co
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IRON AGE
GARDEN TOOLS
Answer the farmer's big questions: How can I have a good garden with least expense? How can the wife have plenty of fresh vegetables for the home table with least labor?
IRON AGE Combined Hill and Drill Seeder solves the garden labor problem. Takes the place of many tools—stored in small space. Sows, covers, cultivates, weeds, ridges, etc., better than old-time tools. A woman, boy or girl can push it and do a day's hand-work in 60 minutes. 80 combinations, $4.50 to $30.00. Write for booklet.
306 Drill and Wheel Hoe
Bateman M'f'g Co., Box 98C, Grenloch, N.J.

C. W. KEITH, Denver, Colo.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

The United States Department of Agriculture wishes every farmer to understand the importance of doubling our poultry production next year. It is a vital part of the general food production campaign, and that campaign must be carried out in all its details to insure victory in this war. The chief poultry increase must be made on the general farms of the country—on every farm in the country. It must be made as a by-product of general farming. The farmer must get his flock to such size, in proportion to his farm, that all the waste and scraps, and land available for chickens to run on will be used, and the fowls kept up from these sources and a reasonable amount of other feed. The department does not suggest that extensive poultry enterprises be taken up by the general farmer. In fact, it warns against that very thing. But it urges every farmer to keep just as many hens, and produce just as many chickens and eggs as he can economically and as a by-product of his general farming.

The average size of the farm flock in the United States now is forty hens. If the average is increased to one hundred hens this year the desired increase in production should be obtained. Many farms, of course, can have flocks of several hundred, and some farms will have to keep less. But the effort is to increase the farm average to at least one hundred hens.

It is an astounding fact that there are a million and a half eggless farms in the United States—an economic anomaly and an agricultural absurdity. Out of a total of 6,371,502 farms, 1,527,743 report no egg production in the last census.

Even if we had never been forced to go to war with Germany this condition would be one demanding every effort at correction—for each farm can, at least, produce sufficient poultry and eggs for home consumption, and thereby be a more profitable farm. It would be to the self-interest of every one of these million and a half farmers to commence poultry production, if there were no war. But because we are at war there is a more important reason why they should do so—the fact that they will be helping win the war—helping to preserve their own free existence in a free country.

Chickens will "pick up" a good part of their living from waste that otherwise would never become of any value. They will feed themselves, to an extent, from grass, weeds, insects, and crumbs and small scraps that if not eaten by chickens would not become of food value to man. They will eat the eggs and larvae from which come various destructive insects, particularly orchard pests. In some orchards where chickens range the brown tail moth has almost disappeared, while nearby orchards, where chickens do not run, are damaged by the pest.

Most of the attention required by farm flocks can be given by the women and children of the household. The question of labor is not a puzzling and uncertain problem in the poultry production program. If the farmer increases his flock to a size suitable to fit in as a by-product of his general farming he will find that it will not require extra help.

Wyandottes vs. Leghorns

What is your opinion as to cold weather and single comb white Leghorns? Will they stand the cold in my open-front house as well as what has heretofore been my favorite breed, namely, Wyandottes? Do you think, figuring in terms of eggs (or general purpose), I am warranted in breeding up my mixed flock (mostly Wyandottes) by Leghorn roosters from high production hens? In other words, do you think that Wyandottes will stand our winter climate better than Leghorns?—C. P., Wiggins, Colo.

Naturally, the high single comb is more susceptible to freezing than the flat rose comb, which is built close to the head. However, single comb breeders have comparatively little difficulty on this score when they provide a good comfortable house and keep the birds indoors during zero weather. If Wyandottes are your favorites and you are successful with them, why make the change by crossing? You have probably found that by selecting the best layers from year to year that your Wyandottes have become a more active type than that called for in the Standard and that they have probably lost some size. However, if you have reason for making the cross do not hesitate, as you will probably lose nothing from the utility standpoint. Generally speaking, the Wyandottes will stand the winter weather better than the Leghorns unless the greatest care is taken to prevent freezing.

Secrets of Science Regarding Growth of Plants

Continued From Page 5

Land may become temporarily exhausted for want of humus or we might say carbonic acid, and nitrogen, but never permanently, for the soil granules are always there, and when broken afresh by tillage will again yield soil salts as soon as the carbonic acid is restored by the introduction of humus by fertilizing, or the plowing under of green crops.

The idea formerly was that when soil seemed exhausted it was time to leave, and many a soil robber of the eastern states after using up the top six inches has abandoned his farm and gone west.

Years ago there were lots of these abandoned farms; but not now—we know better. A modern farmer comes along, perhaps a boy from an agricultural college, takes hold, plows deeper, breaks up a fresh lot of granules, uses a little manure, plows under a green crop or two and the farm is as good as new.

NO SOIL CAN EVER BE PERMANENTLY EXHAUSTED BECAUSE THE SUPPLY OF GRANULES WHICH CAN BE BROKEN UP OR SUBDIVIDED BY TILLAGE IS INEXHAUSTIBLE.

Dry Farming Discoveries

Dry farming has been responsible for several new discoveries with regard to the movements of water or soil solution in the granules. One of these is that contrary to the old belief free water altho necessary for germination is not necessary for the growth of a plant or the maturing of a crop. By free water is meant the amount over and above that which clings immovably to the granules. After rains this free water moves down into our dry subsoils until it has spread out as far as it will go, and becomes film water. When this happens active capillary action has ceased and the actual water content of good soil will be in the neighborhood of 15 to 17% instead of 6% as the old books have it. It is a lucky thing for the dry farmer that such is the case, for the raising of crops on 6% moisture is impossible, and on the strength of this theory there were many in the early days of dry farming who declared that industry to be absurd and impractical.

The free water theorists also maintained that a plant was nourished by capillary movement—by free water moving up to its roots to replace the soil solution as it was absorbed; but the dry farmers were not long is discovering that instead of the water moving up to the plants, the plants went after the water, their roots following it down to a depth of sometimes ten feet or more, and the discovery of root hairs by Bergen and others demonstrates that every film on practically every granule can be absorbed by them so long as the moisture content is not much below about 6%; for one inch in length of fine root fibre may possess 400 of these hairs, while in a linear inch of soil granules there may not be more than two or three hundred, so that there is a root hair for every soil granule, and some over.

Function of the Root Hairs

It is an interesting question as to how the root hairs acquire their power to suck up moisture. Before the facts about the protoplasmic cell life of plants and its activities became known it was believed that free water could pass in and out of the roots by osmosis, the plant retaining a certain part of the solution for growing purposes, and that this action gave birth to a force called root-pressure which was supposed to be responsible for the rising of the sap. Now, we know that the sap does not merely rise—it circulates, and this would be impossible under root pressure for the force which sent it up would naturally prevent its coming down. Then dry farming oper-

Turn to Page 18

The Farmer's Friend

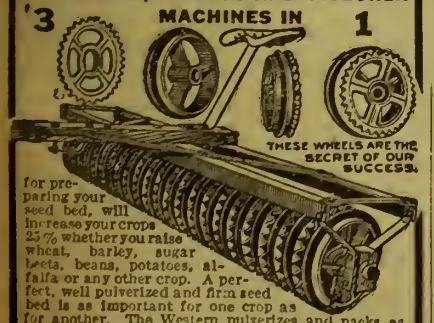
Formaldehyde has been rightly dubbed "The Farmer's Friend" because it serves the scientific farmer in a thousand ways.

FORMALDEHYDE
The Farmer's Friend

is the best and cheapest disinfectant—officially endorsed as *the* standard treatment for seed grains. It rids seed grains of smuts and fungus growth, also flax wilt and scab and black-leg diseases of potatoes, insuring healthy grain, clean potatoes, onions, cucumbers, etc. One pint bottle costing 35 cents treats 40 bushels of seed. Big book free. Write to-day.

Perth Amboy Chemical Works
100 William Street New York

USE THE WESTERN
PULVERIZER, PACKER AND MULCHER
'3 MACHINES IN 1



for preparing your seed bed, will increase your crops 25% whether you raise wheat, barley, sugar beets, beans, potatoes, alfalfa or any other crop. A perfect, well pulverized and firm seed bed is as important for one crop as for another. The Western pulverizes and packs as deep as plowed and leaves a loose mulch on top to protect the moisture; saves 1-3 of expensive seed and time, labor and horse power in preparing a seed bed. It is especially adapted for breaking crust and cultivating winter wheat in the spring, or for breaking crust on sugar beets or beans either before or after they are up without injury to the plants.
MADE IN 12 SIZES, FOR HORSES OR TRACTOR USE, IN 1 AND 3 SECTIONS
1918 crop will bring war prices; make it a record breaker in size by using the Western. Send for our free illustrated catalog, giving full description of the machine and its work, also dealer's name and much other valuable information.
Western Land Roller Co., Box 319 Hastings, Neb.

Poultry Book Latest and best yet! 144 pages, 215 beautiful pictures; hatching, rearing, feeding and disease information. Describes busy Poultry Farm handling 53 pure-bred varieties. Tells how to choose fowls, eggs, incubators, brooders. This book worth dollars mailed for 10 cents. Barry's Poultry Farm, Box 66, Clarinda, Iowa

$200 to $300 Extra Money Easy
Find Out How—Send No Money—Write Today

The poultry business is now more profitable than ever. Over $700,000,000 was paid Farmers, Farmers' Wives and Poultrymen last year for eggs and poultry. A bigger business this year. War has boomed the poultry business tremendously. An excessive demand for chickens—a short supply. It's a patriotic duty to help fill it. Prices for poultry and eggs are soaring too. Get in a big, sure paying business like this, **now.** Don't experiment. Get in **right.** Sure Hatch Incubators have made big, sure money for people for 20 years. Over 300,000 well pleased owners. **Sure Hatch** is safe, so simple a child can operate it. Lasts for years. Hatches strong, sturdy, healthy chicks. Often pays for itself 10 times over the first year. We have the proof.

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Get Poultry Feed Cheap—Learn How

Get Our Big Money Making Book FREE!

Our big catalogue has many illustrations, many letters from people who have made money with Sure Hatch—women as well as men. Tells how to prepare and secure cheap poultry feed. It's Free. Get it. It's an authority on poultry raising. Many money-making ideas. Every Farmer, Farmer's Wife, and Poultryman should have this book. Just a postal brings it to you—Free! Also ask about the Sure Hatch Fresh Air Colony Brooder. Self-feeding, self-regulating, simple, safe, enduring. Operating cost less than 6 cents a day guaranteed. It raises Sure Hatch chicks surely. Write today sure. Help your country win the war and make money too.
SURE HATCH INCUBATOR CO., Box 51 FREMONT, NEBR.

Stop Hatching Weak Chicks
With Cheap Incubators

Remember, it is not how many you hatch that counts, but how many you raise. A Queen costs but little more, and the extra chicks that **live and grow** soon pay the difference.

Queen Incubators (30)
Hatch Chicks That Live and Grow

Built of genuine California Redwood. Redwood **does not absorb the odor** from the hatching eggs. Cheaper woods, and pasteboard lining in iron and tin machines, **retain the odors** to weaken and kill the hatching chicks.
The Queen is **accurately regulated**—taking care of temperature variation of 70 degrees without danger. **Not cheap,** but cheap in the long run. Catalog free.
Queen Incubator Co. Lincoln, Nebr.

$8.95 Buys Champion 140-Egg Belle City Incubator

Prize Winning Model—Hot Water—Copper Tank—Double Walls of Fibre Board—Self Regulated—Thermometer Holder—Deep Nursery. When ordered with $5.25 Hot Water 140-chick Brooder—both cost only $12.95.
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Satisfaction Guaranteed
Over 650,000 Satisfied Users
Start Early-Order Now-Share in my
$1000 Cash Prizes
Conditions easy. Or write today for my Free Book, "Hatching Facts"—it tells all. With this Champion Hatching Outfit and my Guide Book for setting up and operating, you are sure of success. Jim Rohan, Pres.

1-2-3 Months' Home Test
Belle City Incubator Co., Box 77 Racine, Wis.

Big Money in Running Water

Let us start you in a business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an

One Man One Team

Improved Powers Combined Well Boring and Drilling Machine
Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.
Small investment; easy terms. Make machine pay for itself in a few weeks work.
There is a big demand for wells to water stock and for irrigation.
Write for free illustrated circulars showing different styles.
Lisle Manufacturing Co. Box 943 Clarinda, Iowa

WE BUY FURS AND HIDES

of all kinds and pay top prices and make quick cash returns. TRAPPERS GUIDE sent free to all who ship and mention this ad.
McMILLAN FUR & WOOL CO.
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WRITE FOR CIRCULARS.

$18.00 Sweep Feed Grinder. | $23.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.
CURRIE WIND MILL CO.,
610 E. Seventh St., Topeka, Kansas

Steel Wheels

will make your old farm wagon as good as new. Save money because they never need repairs. Write for our big free book telling all about them and how they pay. Empire Mfg. Co., Box 797 Quincy, Ill. BOOK FREE

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

GOVERNMENT LANDS—BOOKLET. Joseph Clark, Sacramento, Cal.

WANTED TO HEAR FROM OWNER OF GOOD farm for sale. State cash price, full description. D F. Buah, Minneapolis, Minn.

WANTED—TO HEAR FROM OWNER OF GOOD farm for sale. Send description and cash price. Co-operative Sales Agency, Minneapolis, Minn.

WANTED STOCK RANCH TO RENT—ONE TO four sections with at least 100 acres of hay land. Cash rent. Colorado east slope preferred. Address T. C., care Western Farm Life.

FOR SALE—640 ACRES OF THE BEST IM proved dry land in Douglas Co., cheap, with or without stock and implements. G. Gerber, 417 28th St., Denver, Colo.

I HAVE SOME CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give full description, location and cash price. James P White, Neu Franklin, Mo.

IRRIGATED FARM FOR SALE—225 ACRES, five miles from Denver Stockyards, one mile from railroad station. First-class water right, excellent improvements; liberal terms. J. D. Hitch, 525 Cooper bldg., Denver.

WE FORECLOSED ON 600-ACRE RANCH, Western Slope, half agricultural half range. Good water rights, buildings, eight miles from market, adjoining United States Forest Range. Will sell reasonably, part cash, terms on balance. Splendid proposition. Interstate Trust Company, 15th and Stout, Denver, Colo.

DO YOU DESIRE A HOME? OR DO YOU WANT to sell or trade the one you already have? We are in a position to assist you either way. We will find you a customer who will buy your real estate, or we can find you a home for cash or easy payments anywhere you choose. Let us hear from you at once. Perry & Son, Weldona, Colo.

LIVE STOCK

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HOGS

BIG TYPE POLAND CHINA SOWS, REGISTERED, bred or open. W. J. Peterson, Seibert, Colo.

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin Owner

DUROC JERSEY BOARS, ALL AGES, FOR SALE, cholera immune; also Single Comb White Minorca Cockerels, $2.00 each. Henry & Purvis, Johnstown, Colo.

ON FEB. 28, 1918, I WILL OFFER FOR SALE 50 pure bred Poland China sows, 25 head of high grade Holstein heifers, 15 head of which have been in the cow testing association and will be sold on their merits. George D. Brown, Polo, Ill., R. 1.

BELGIANS FOR SALE. 5 REGISTERED BELgians, colts coming 2 yrs. 3 studs, 2 fillies. E. P. Purington, Wilcox, Nebr.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

QUALITY DARK CORNISH. MATING LIST. R. H. Jandeheur, Alma, Nebr.

QUALITY DARK CORNISH, THE IDEAL FARM fowl. W W Officer Fowler Colo

S. C. BUFF LEGHORNS HEASLEYS EGG BASket strain. Mrs. J. W. Kyffin, Fowler, Colo.

FOR SALE—THOROBRED LIGHT BRAHMA cockerels. E Grosser, 2240 Perry, Denver

YOUNG CANARIES $5 A PAIR. BUFF ORPington Cockerels $2 and $3. Leslie Christensen, Rt. A, Akron, Colo.

QUALITY DARK CORNISH—A FEW CHOICE cockerels from prize winners at $3 and $5 each R. H Jandeheur Alma Neb

WINTER LAYERS—BARRED PLYMOUTH Rock Eggs; 15, $1; 100, $5. Mrs. Lon Edwards, 1105 Garfield Ave., Loveland, Colo.

A FINE LOT OF VIGOROUS, EGG-BRED S C W. Leghorn cockerels for sale. They will improve your flock. Rowley Egg Farms Co., Palisade Colo

WHITE WYANDOTTES, CHOICE COCKERELS for sale. Mrs. Geo. Wheeler, Route A, Otis, Colo.

FOR SALE—A FEW MORE OF THOSE DARK velvety Single and Rose Comb Rhode Island Red Cockerels, $4 each. For quick sale. F. B. Morger, R. 1, Fowler, Colo.

HALL'S S. C. REDS WIN AGAIN AT WYOMING State Fair. Some fine birds for sale at low prices. Liston L. Hall, Gering, Neb.

SINGLE COMB WHITE LEGHORNS, HEAVY winter layers; 13 years in the business; hatching eggs, day-old chicks. Riverside Poultry Farm, H. D. Walker, La Junta, Colo.

CHOICE S. C. WHITE LEGHORN COCKERELS, $2 to $3. Hens $2, bred to lay; 280-egg strain. Eggs for hatching. Plummer Poultry Farm, Lebo, Kans., R. 1.

BARRED PLYMOUTH ROCKS: A NICE LOT of Cockerels, mostly of the light or pullet bred line, and a few hens and pullets. Bradley and Latham strain, none better. Chester Blunt, Greeley, Colo. R. 1

BREEDING STOCK—WE CAN SUPPLY ALL leading varieties of Cockerels, also one or two-year old turkey gobblers and hen turkeys. Write for prices and particulars Columbia Hatchery, P. O. Box 1102, Denver, Colo.

HELP WANTED

THOUSANDS GOVERNMENT JOBS NOW OPEN to men-women, $100.00 month. Common education sufficient. Vacations. Short hours. Rapid promotion. Write immediately for free list of positions. Franklin Institute, Dep't L 177, Rochester, N. Y.

SALESMEN WANTED—OWING TO CONDITIONS brot about by the war we have a few well worked territories open and will be pleased to hear from interested persons. Applicant must be exempt from draft. McConnon & Company Dept. R, Winona Minn.

WANTED—RENTER FOR 820-ACRE FARM; 120 A. cleared; farm equipment complete, including tractor; 12 miles west of Lyford, Tex.; must be good livestock man, experienced in dry farming methods and irrigation. Write James Ross, 4618 Dover St. Chicago, Ill

MISCELLANEOUS

CHOICE WHITE SWEET CLOVER AT FARMers' prices. J. M. Lewis, Virgil, Kans.

RAW FURS WANTED—DON'T SHIP YOUR wool, poultry, hides, or furs of any kind until you get our price list. Perry Brothers, Weldona Colo

PEDIGREED SEED POTATOES, ABSOLUTELY pure. Famous Dean Baking Rurals, $4 cwt.; Bliss Triumph, $5 cwt. Pure type. McClellan Seed Co., Greeley, Colo.

FOR SALE—LITTLE BULL TRACTOR, $275 Twelve 100-lb. shotes; weanling colts; White Plymouth Rock cockerels. Lone Tree Ranch, Carr, Colo.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Fords, the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request Mention this paper

NURSERY STOCK

BUY TREES FOR YOUR ORCHARD OR GROVE and have two and three years to pay at the same time. All stock that fails to grow replaced free. Address Weldon Valley Adv. Co., Weldona, Colo.

TANNING

LET US TAN YOUR HIDE—COW, HORSE OR calf skins for coat or robe. Catalog on request. The Crosby-Frisian Fur Co., Rochester, N. Y.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association Denver

IF YOU DON'T FIND ADVERTISED HERE what you want, write our classified advertising department and they will be glad to place you in correspondence with the right parties.

Clean Seed Grain Now

Winter days when farm work is slack, can be well utilized in cleaning and grading the small grains for spring sowing, according to a statement just issued by the Seed Stocks committee of the United States Department of Agriculture. This work should all be done before the spring rush in preparing the land and sowing the seed. Wheat, oats, barley, and flax for seeding can all be improved by running the seed thru the fanning mill at least once to remove the weed seeds, chaff, broken straws and light, shrunken kernels. The cleaned grain will run thru the drill or other seeding machinery more evenly and thus insure a more uniform stand than can be obtained from uncleaned grain. Cleaning grain also eliminates most of the weak and diseased kernels, many of which may not grow at all, or if they do grow are likely to produce small, weak plants. Uniformly large, plump kernels germinate more evenly, produce stronger plants, and yield more than ungraded grain containing small, weak kernels.

The Food Administration informs us that hogs have decreased in the British Isles much more than any other class of livestock. The decrease in the last year has been: Ireland, 26.4 per cent; England and Wales, 11.5 per cent; Scotland, 9.5 per cent. The total decline was over 600,000, of which more than 50,000 were breeding sows. Hog raisers will see the point.

A committee of bean growers of California recently held a conference with Food Administrator Merritt and fixed upon a price of eight cents for Pinks and 11 cents for Whites. It is estimated that the average cost of producing beans is not far from $40 per acre. —California Cultivator.

THE PLATTE RIVER CATTLE COMPANY

Denver, Colorado

PURE-BRED

Hereford

BULLS

We Have on Hand and For Sale

250 Head Yearling Bulls

100 Head Two-year-old Bulls

Good Bone, Colors and Markings
Fine Condition for Service

Write or phone us regarding these Bulls. It will be worth your while.

715 E. & C. Bldg. Phone Main 3989

406 New Live Stock Exchange Bldg. Phone Champa 4793

HIGH CLASS JERSEYS AND DUROCS

Majesty Oxford Combination, half brother to the grand champion at Columbus, at head of herd

Have a yearling son of the great Count Majesty, out of a Register of Merit cow, at right price. Only three of Count's sons left.

Have one March boar, sired by a son of Grand Model, and out of a daughter of Model Critic, a big, long stretchy fellow, at $65, worth a hundred. Will spare one open gilt.

A. M. McCLENAHAN
Greeley, Colorado

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C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 415 Charles Block, Denver, Business Agent and Secretary.

About 13,000 farmers are now members of the Colorado State Grange, the growth of the organization having been remarkable in the last year. The details will be brot out at the state session this week, where officers' reports will show a gain of 48 Granges over the previous year, making the total number now 195 Granges. Fifteen hundred farmers took the obligation during the past year.

One of the strongest drawing cards has been the Grange purchasing department, which has been of such material benefit to the farmers in these times of the high cost of living that they count the dollars saved by the thousand. A review of the year's activities in this line will be published in a later issue.

The Grange both nationally and in the state, has stood squarely behind the administration in the conduct of the war and everything possible has been done to help along food production. This policy will be continued and undoubtedly a reaffirmation of the loyalty and patriotism of the farmers will be made at the session this week. The attendance promises to be larger than ever.

Riverdale Grange near Brighton is advertising for bids for a $4,000 hall which is to be built this spring.

Secrets of Science Regarding Growth of Plants

Continued From Page 17

ations proved that plants could live and grow from the stationary films (of soil solution) on the granules. This disposed of the osmotic theory, for osmosis is itself a water movement, a diffusion thru a membrane in and out, and cannot be supported without free water.

The root pressure theory was never accepted by farmers and practical operators, for it was well known that in plants, slips, and cuttings the sap could circulate without any root, and that trees and posts cut down in the early spring would leaf out and grow so long as there was any sap left in them to circulate.

The French scientists were the first to discover that the protoplasm in the plant cells pulsated, and that this motion was the cause of the pressure within, also that if the protoplasm were accidentally destroyed the pulsations stopped, sap ceased to circulate and the plant was dead.

The lowest forms of animal life which are found abundantly in all water, and are visible only with the microscope, consist of a few protoplasmic cells which expand and contract, taking in water and squeezing it out again, acquiring sustenance from the material in solution in much the same way as an oyster.

In the plant, under the stimulus of light and heat, the protoplasm in the cells acts in much the same manner. It expands taking in the soil solution or sap at one end, then contracts, squeezing it out at the other where the next cell gets it, and so passes along or circulates.

Professor J. C. Bose, M. A., of the Presidency University of Calcutta, has devised an instrument which records the motor activities or pulsations of plants, and has exhibited the same in Washington and before the scientific societies of the world.

Serve your country by saving food.

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Valentine's Last, X12316, 652006 at head of beef herd. Claywood White, 427350 at head of milk type.
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JACK MEN, LISTEN
I have the largest 6-year-old jack west of the Missouri River for sale. Other bargains in Mammoth jacks and jennets.
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On February 28, 1918, I will offer for sale 50 purebred Poland China sows, 25 head of high grade Holstein heifers, 15 head of which have been in the cow testing association and will be sold on their merits.
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BARGAINS Percherons, Belgians, Shire, Suffolk, Clyde, Hackney, Great Coach Stallions. $450 and up. Good Jacks One, two and three years' time given purchasers.
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$25—HOLSTEINS—$25
You can buy calves for less, but when you buy stock from Roberts you get value received. Waukesha County High Grade, 15-16 pure, 5-weeks-old calves. Specify markings. Express paid. Satisfaction guaranteed for $25. Cows, $125. J. A. ROBERTS, Cattle Expert, Waukesha, Wis.

Champion Dairy Cow of Colorado, Dutchland Hengerveld Ascalon
Butter, 1,265 Lbs.; Milk, 26,485 Lbs., in One Year

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THE EXHIBIT THIS YEAR AT THE STOCK SHOW WILL BE BETTER THAN EVER

Public Auction, Friday, Jan'y 25, 1918

At 1 P. M. in the Show Amphitheater. Sale to be Conducted by

THE HOLSTEIN SALES CO.

The cattle to be sold at this sale have been selected from those to be exhibited at the Show. These cattle have been selected with the special purpose of securing the type most in favor in Colorado and adjoining states. There will be animals of world's-record breeding in this sale. All animals in the sale will be tuberculin tested. This is the highest class sale of registered Holsteins ever held in the West.

Sale to be held under the auspices of the Colorado Holstein Cattle Club. Contributors to the sale are:

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Highest Record Service Bull
In the West

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Note the Superiority of the Individuality of the Animals of the Exhibit of the

Western Holstein Farm

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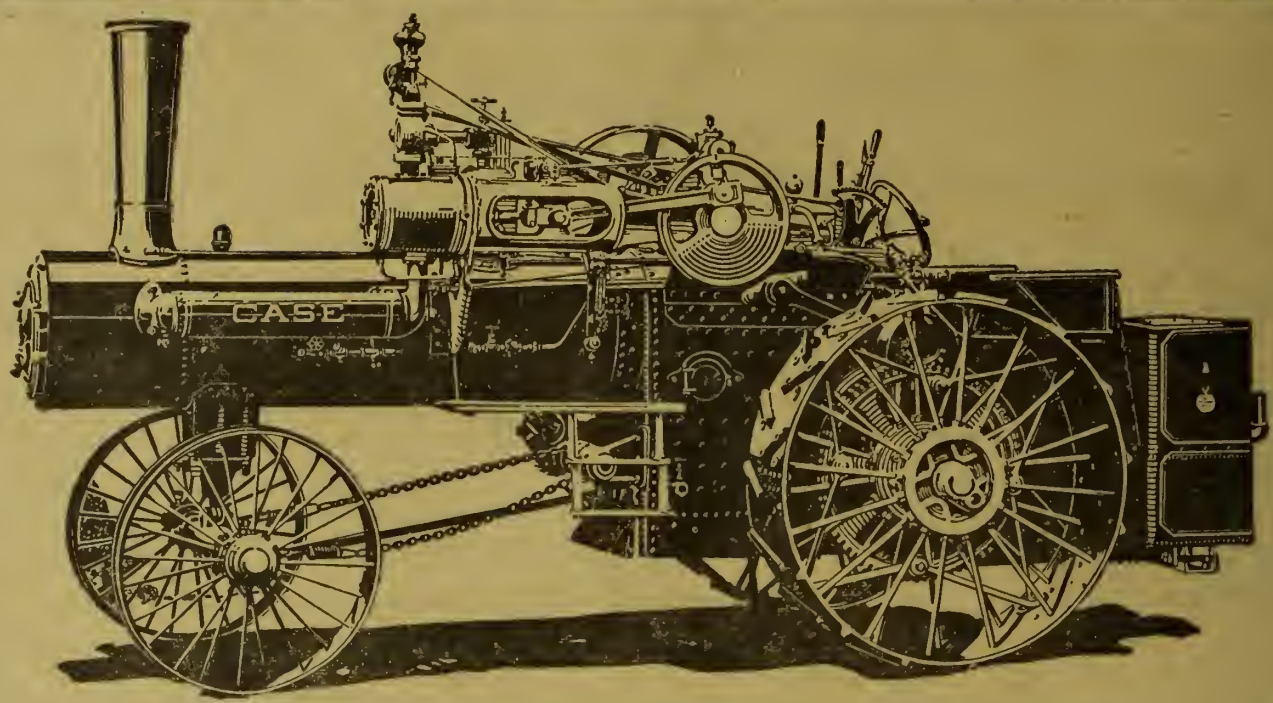

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Many men believe that in certain sections and for certain work, steam is preferable to gas. So the Case line of Steam Tractors is complete. We make them in sizes from 30 to 110 horsepower.

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Case Steam Tractors, like all Case machinery, are not built to sell on price alone. They are built to meet a quality standard which is demanded of every Case product.

Farmers know they can turn to a Case product with confidence. They know they are getting dollar for dollar value, and an engine on which they can rely.

Thousands of Case Steam Tractors are in use all over the world. Their power, dependability and length of service cannot be equaled. They are simple to operate and economical.

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Costs only one-third cent per hour to operate. Handsome, neat and convenient. Nickel plated and highly polished. Last a lifetime. Just the thing for a farm home. Economical. Write for free illustrated booklet describing this and 50 other gasoline lamps.

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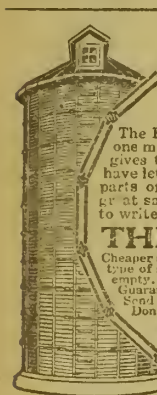

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Cheaper and easier to put up than any other type of silo. Can't crush and fall in when empty. Sold direct to you from the mill. Guaranteed by a million dollar concern. Send for Free Book, "All About Silos." Don't buy until you have our prices.

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Big Money in Running Water

Let us start you in business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an

Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

There is a big demand for wells to water stock and for irrigation.

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co. Box 943 Clarinda, Iowa

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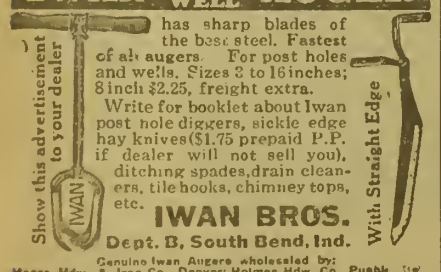

has sharp blades of the best steel. Fastest of all augers. For post holes and wells. Sizes 3 to 16 inches; 8 inch $2.25, freight extra.

Write for booklet about Iwan post hole diggers, sickle edge hay knives ($1.75 prepaid P.P. if dealer will not sell you), ditching spades, drain cleaners, tile hooks, chimney tops, etc.

IWAN BROS.

Dept. B, South Bend, Ind.

Show this advertisement to your dealer

With Straight Edge

Genuine Iwan Augers wholesaled by: Moore Hdw. & Iron Co., Denver; Holmes Hdw. Co., Pueblo, Colo.

$18.00 Sweep Feed Grinder. | $23.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO., 610 E. Seventh St., Topeka, Kansas

Ship on Breeder's Affidavit

To Hog Breeders:

Every hog breeder shipping purebred hogs knows that in almost every instance he must have a veterinarian's certificate for interstate shipments. At the last annual meeting of our association this matter was quite fully discussed, with the result that a committee was appointed to go before the United States Live Stock Sanitary Association and ask them to pass a resolution asking all states to abolish this requirement and instead accept the affidavit of the owner of the animals to be shipped.

We presented the matter to the Sanitary Association and they appointed a committee to prepare and present to the association a resolution covering the subject. The special committee presented the following report, which was adopted:

In view of the handicaps and delays incident to the methods of inspection and issuing of health certificates to cover the interstate shipments of swine, your committee begs to submit as follows:

That the interstate shipment of purebred swine by express in crates be permitted when accompanied by an affidavit of the owner to the effect that said swine, to the best of his knowledge and belief, are not affected with cholera and that cholera has not existed upon the premises from which said swine have been removed for a period of not less than three months immediately prior to date of shipment. Also that said swine have not been subjected to the serum and virus treatment within thirty days immediately prior to date of shipment.

It must be remembered that the United States Sanitary Association is not an authoritative body, but one whose membership includes the sanitary officials of practically every state in the Union. To make this rule effective it must be adopted by each individual state. We want to ask swine breeders to see their sanitary authority having this matter in charge and ask them to adopt the rule. Your secretary will take it up with state authorities asking that they adopt it. We shall also try to keep informed regarding the states that do adopt the request.—E. Z. Russell, Omaha, Neb., Secretary National Swine Growers' Association.

The proposed rule is one that would mean a good deal to the hog industry, and I believe it would be adopted by state officials. It is a more rigid rule with regard to period of time free from cholera than most veterinarians require in giving a certificate. If any breeder were found to have shipped on a false affidavit, the privilege would be taken from him. My own belief with regard to the rule is that, if anything, it is too drastic. Requiring three months to have elapsed since cholera was on the place, before shipment can be made, would put many a man out of business so far as a season's sales are concerned. If there has been no disease on a place for a month prior to shipment, and no virus has been injected into animals within that period, and animals shipped are thoroly disinfected and shipped in new crates, there is absolutely no danger to the purchaser. I presume, however, that the intention of the committee from the National Swine Growers' Association is to make the shipment upon affidavit extra safe; and in case a breeder desires to ship when he has had cholera more recently than ninety days, he may still have opportunity to do so, by securing a veterinarian's certificate to the effect that his herd is healthy at shipping time, and that the hogs shipped have been disinfected. It is a very serious expense upon an individual animal that is to be shipped, to have a veterinarian inspect for that one shipment. An expense of two to ten or fifteen dollars upon each purebred hog shipped out means a big item to the industry. Absolute safeguards with regard to contagious diseases are in most cases impracticable. The usual attempt of authorities is to adopt a rule which will give good protection, and, at the same time, be workable.

I agitated such a rule before the Colorado Swine Breeders' Association some years ago, and have always believed that reputable breeders should be allowed to ship out on their own affidavit. There are only a few breeders of each breed of hogs in the state of Colorado. It is easy for a state veterinarian to become personally acquainted with them, and our present state veterinarian is acquainted with most of them. He will know of what value their affidavits would be, and I am ready to say of my own personal knowledge of these men that I do not think there are more than one or two in the state who would for a moment think of attempting to ship on a false statement.—G. E. Morton.

"I will produce just one undeniable fact which shows women are more practical than men," says Bum Bunkster. "When a man's hair begins to grow scanty, what does he do? He buys some patent medicine hair grower that was never yet known to produce hair. When a woman finds it necessary to increase her hirsute adornment what does she do? She buys hair."

We Must "Follow-Up"

The story of the Gallipoli withdrawal is a tale of inadequate support. Like Salamanders clinging to the red-hot bars of a fiery furnace, the boys of Australia and New Zealand clung to the slopes of Anzac. Desperately, heroically they clung. No troops under any circumstances ever displayed greater soldierly qualities or upheld more sacredly the best traditions of England's Army. But they had to withdraw because the "follow-up" was not there.

To some of us it has been given to march with the columns of troops that go to France. And to others it is given to wave Godspeed. But he who marches and he who stays is equally a citizen of the world's mightiest republic and equally responsible for its success in this greatest of undertakings.

Then let us at home turn from our flag waving and consider how necessary we are, how useful we must be. Those who go to fight cannot hope to win by naked bravery and we cannot hope to win unless every individual at home does *all* he can. We must have no Gallipoli.

The Bell System is only one of the myriad great and small industries which are co-operating that nothing be left undone to keep a constant, efficient stream of men, guns, ammunition, food, clothing and comforts flowing to the front.

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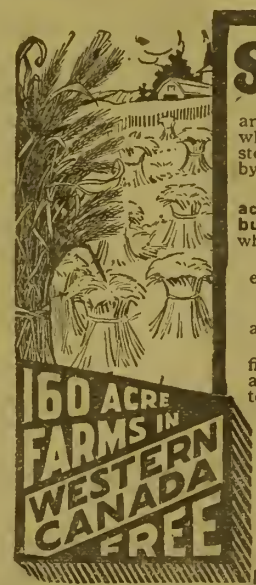
One Policy *One System* *Universal Service*



Scenes of Prosperity

are common in Western Canada. The thousands of U. S. farmers who have accepted Canada's generous offer to settle on homesteads or buy farm land in her provinces have been well repaid by bountiful crops of wheat and other grains.

Where you can buy **good farm land at $15. to $30. per acre—get $2. a bushel for wheat and raise 20 to 45 bushels to the acre** you are bound to make money—that's what you can do in Western Canada.

In the provinces of Manitoba, Saskatchewan or Alberta you can get a

Homestead of 160 Acres Free

and other land at very low prices.

During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to the acre. Wonderful crops also of **Oats, Barley and Flax. Mixed Farming** is as profitable an industry as grain raising. Good schools, churches, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

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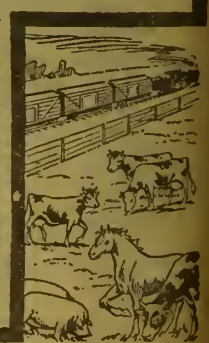
Canadian Government Agent.



Model 20

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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, FEBRUARY 1, 1918 | Number 3

Breed Up Poultry from Common Farm Stock

LESSON FOR POULTRYMEN IN DAIRY BREEDING EXPERIMENT

W. E. VAPLON

IN the December number of Successful Farming appeared an article by A. H. Snyder entitled "A Herd Built From Scrubs." It is worth reading by our poultrymen. We could easily believe, by reading poultry literature only, that the only way to improve the calico flock is to sell off every last fowl and buy a bunch of standard bred stuff. These writers won't acknowledge that a scrub has any merit; if she lays at all it is only when eggs are cheap; the eggs she does lay are small or are dirty and uneven in color or have sharp corners, and certainly do not have the rich flavor of the eggs laid by a hen of proper shape and color!

Mr. Snyder shows the photograph of a range cow, her daughter and granddaughter both sired by a purebred Holstein. This picture tells a big story, the granddaughter easily passing for a Holstein. Here is some of the story:

Experiment With Scrub Cows

After these scrub cows reached the experiment station they were given the same feed, care and shelter as the purebred dairy herd and were bred to purebred dairy sires. Then began an interesting record of improvement that shows in a remarkable way the rapidity with which a productive herd can be built up from a foundation of common cows. The accompanying photograph of one of the scrub cows and her daughter and granddaughter give a better idea of what was accomplished by breeding than can be given by any sort of description. These animals represent the first and second crosses of a scrub cow with a purebred Holstein bull. Notice the markings and the type of the animals. The cow that is half scrub and half Holstein has almost the identical markings of the scrub cow, but she is of better dairy type. But when the Holstein blood is increased to three-fourths to one-fourth scrub, the markings of the sire become so decided that the heifer could well pass for a high grade Holstein. The color and markings of the sire's breed was much more evident in the first cross of scrub cows with Jersey and Guernsey sires than was the case with the Holstein sire. There is considerable gratification to the dairyman in having his cows look like dairy cows, but the real test is in the milk-pail. Unless his efforts to improve his herd show results in the form of more milk and more butterfat, he has not made much progress. Unless the dairy sire that he is using in the upbuilding of his herd is capable of impressing the characteristics of milk production upon his progeny, he is a failure.

A glance at the records of the scrub cow and her first cross with a Holstein sire shows that the sire has transmitted the milk-producing characteristics of his breed in much greater degree than his markings. The best record that the scrub cow ever made was 4,588.4 pounds of milk and 201.67 pounds of fat in one year. The four-year-old record of her daughter by a purebred Holstein sire was 8822.8 pounds of milk and 283.75 pounds of fat. The increase of 49 per cent in milk and 41 per cent in fat amounted to an increase of $22.38 in profit over her dam's best record. It would seem that this increase in production might properly be credited to the influence of the sire, owing to the fact that the dam's best record was made after she had enjoyed the benefit of good care and feed for a period of years. The records of her scrub cows which were bred to purebred sires of the Guernsey and Jersey breeds differ from the record of the Holstein-scrub cross only in degree. The first generation heifers were much superior to their dams in production and also showed great improvement in constitution, capacity, mammary development, straightness of top line, quality and type. Production records of the second generation, which is three-fourths purebred and one-fourth scrub, are not yet available, but dairy type and characteristics are much more evident than in the animals of the first cross.

Individuals of Merit

It is indeed a most miserable flock of scrubs that contains no individuals of merit. By merit we do not mean size, shape and color, but the ability to meet the grocery bill by a regular contribution to the egg basket; this, sooner or later, must determine a hen's value, as the color of the plumage will forever be a delusion and a snare to the farm poultry man. To produce a marketable commodity at a fair profit is his problem; color of feather and shape must remain the aim of the man who can afford to ride a hobby, and the game, like the racing game, is a rich man's game.

If two purebred crosses in cattle can make such great improvement in production, either the same improvement can be made in poultry, or poultrymen have not been improving their flocks as much as the advertising columns of poultry magazines would have us believe.

How many farmers now owning a mixed flock of hens can afford to replace that flock by a flock of purebred fowls? If he did so, what guarantee would he have that the new flock would outlay the old? How many farmers have the house room, yards and other facilities to begin improvement by buying a trio or pen of purebreds? How many farmers will ever get anywhere in improving their flock by starting with eggs for hatching? But is there any excuse for any farmer not improving his flock by a similar method as told in the above story when it is shown that such crossing will bring better results? It is just as possible to have a flock of poultry even in size, uniform in color and good producers as it is possible to have a dairy herd uniform in size, color and also good producers; but the same attention to scientific feeding principles must be observed and the closest culling and most careful selection must be practiced.

Selection of the Males

What is there in the shape of the hen, in the size or texture of her comb, size or expression of the eye, size or shape of the head, her actions, disposition, habits, etc., etc., to reveal her fecundity? If there is a way to know that a hen is prolific or not, even as a dairyman may know his cow by her conformation, etc., will such a rule work out in case of the male? If there is, and we believe there is such a way, would it not be a comparatively easy matter to select males for our flocks and be reasonably sure of getting a flock of high producing pullets, by such selection and of course by similar selection of the hens?

It is always going to be impossible for the farmer to know the individual breeding of his fowls, but when our poultrymen breed more carefully along these lines, sacrificing, if need be, some of the fine points they now so earnestly are striving for, the farmer may always be reasonably certain of securing the necessary males for his flock; and we are satisfied that he would be willing to pay a higher price for such stock, stock bred from high producing hens and showing signs of vigor, vitality, capacity, etc., than he is forced to pay for stock bred, primarily for looks.

There are twice as many good looking flocks of poultry in Colorado as there were ten years ago; by good looking flocks, we mean flocks made up of one variety. By a little closer culling and a little better selection of males from year to year a very uniform flock would result.

Uniformity of product, any product, pays, and the crate of hens or chicks, uniform in size and color, will sell quicker and command a better price than a mixed lot. Keeping over the late molters, the most active and vigorous hens from which to raise winter laying pullets, selecting males which conform to the type of such hens is bound to increase egg production and make the farm flock a source of pleasure and profit.

We want Western Farm Life readers to express themselves on the questions we have asked and the comments we have made in this article. We are not particularly anxious to hear from the man who has fancy and utility points both highly fixed in the same hen, but would appreciate hearing from those who have a method of selecting performers; such information would be of great value to all readers of these columns.

A Government Experiment

The following is a brief report of an experiment carried on at the government poultry farm. The experiment does not deal with egg production, but in these days of war prices the farmer cannot afford to ignore the value of poultry production for food. It would be interesting to know just how little a pound of chicken, or duck, or turkey, or goose costs the farmer to produce. Not more than half that of some other meat, probably, and the price received is now more. The two pounds per fowl gained by a Plymouth cross, as related in the following, at 17½c to 25c is certainly worth while, as this gain can be made by the farmer keeping scrubs, during the summer season when the chicks pick up much of their food:

Several lots of these scrubs were bought two or three years ago. Our special attention was directed to the progeny of two of these flocks. In one case an 8-pound Barred Rock male (standard-bred) was mated with twenty-five of these scrubs; in another case a standard-bred White Plymouth Rock male was used in a similar experiment. These scrubs were birds of all colors, so to speak—black, buff, mixed gray and buff, spotted, streaked, muddy-barred, brown, reddish-brown, etc. None was pure white, tho two or three were light colored, a mixture of gray, buff and black—not much black.

From the pen headed by the White Rock male, three or four nearly white females were obtained, but none was all white. On the other hand, the offspring of this mating, at maturity, AVERAGED NEARLY TWO POUNDS MORE PER BIRD than did their scrub ancestors. Most of the offspring, however, preserved the "scrub" mixture of colors and markings.

From the mating of the Barred Rock male with the scrub hens, twenty-nine chicks were raised to maturity and twenty-five were retained. These twenty-five we saw. A remarkable fact is that every bird of the twenty-five was barred, clearly so, and several were quite well barred. We saw the first cross of this mating in a pen in the woods. Over in one of the long houses we saw a Rose Comb Barred Rock pullet, representing the second cross or second generation from this Barred Rock male, scrub stock mating and this bird, in color and in distinct marking, would have passed muster as being a fair quality, cockerel-bred female. Among the original scrub hens were two or three with inferior Dominique plumage. They probably were scrub Barred Rocks, or at least had considerable Barred Rock blood in them. But all the twenty-five pullet-hens could hardly have come from these two or three hens.

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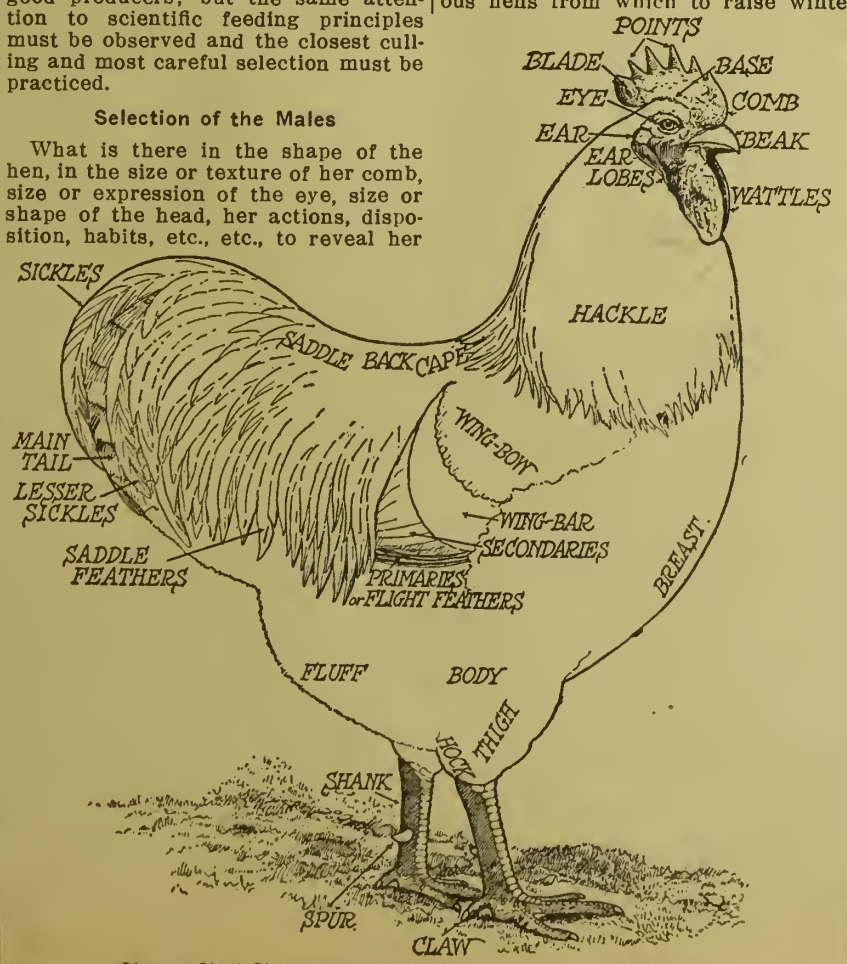

Glossary Chart Giving Names of the Various Sections of the Male Fowl

Where the Farmer Boy Serves Best In the Army

FELIX J. KOCH

NOW that the big American army—volunteers, conscripts, regulars, and the rest—is definitely launched on its big mission of saving half the world to democracy, those not away with the boys at the front are wont to wonder just what each enlisted man of their friends may have to do. The president's proclamation for the drafting, it will be remembered, stated plainly that each one with the colors would be assigned where best fit, and in that connection what the men who give previous occupation as "farmer" may have set them is of especial interest to yeomen everywhere.

In charge of the big federal forces at the heart of the American midwest, with headquarters at Cincinnati, Colonel Robert Hubler has been receiving no end of men from the farms of most the agrarian states, and what he has to say of the best work for which such men are fitted becomes of no little interest, indeed.

"Suppose," we asked the colonel the other evening, as he sat in the moonlight before his tent in Eden Park, in the suburbs of Cincinnati, contemplating his inspection of outposts on the morrow, "we were off at the front, and I had registered as farmer, or farmhand, what would you give me to do?"

Hubler is himself from the fertile Big Miami farm country, centering, that is to say, at Dayton, and he knows the men of this class as well as any officer can.

"The farm boys," he replied, "are adapted well to trench-digging, and they are especially valuable for mule-drivers in all the circumstances that attach with getting under fire.

"Mule-driving," he went on, suspecting our smile, tho we disguised it, "is not at all the simple feat a layman might suppose. To be as stubborn as a mule has become proverbial in our language, and how to handle a mule when he is set in his mind, and get that mule to do the work on which the battling army awaits, requires experience and a curious form of tact, indeed.

"So, again," and it was the colonel's chance to have the odds at us, "you city men might very often be at loss just what to do did something snap—did something break—on harness, wagon, otherwise, and so interfere with the mule. Your farmer boy is well up on this and without direction or command, he uses his wits and soon has things in shape.

"In the trench-digging, too, being used to digging the earth, this man from the farms will shine. Trench-digging on a battle-field, you may not know, differs very materially from the digging of trenches, say for gas-pipes, things of that sort, which may greet the average man's eye.

"If a company, or other body, is to advance across a battle-field and happens to get under heavy fire, each individual man who is to dig a trench, lies down; takes the trench shovel provided him, and digs at one side of himself, to get the body into the hole.

"Then, this much 'protection' secured, he goes on with the digging until he gets his foot into that trench; then he goes on and digs on the other—usually the left side. The initial trough dug, thus, battle allowing, he digs to deepen this—down and down and down—losing no time, you can rest assured, until he has a trench so deep he can kneel in it and fire from it thus, secure.

"Digging such a trench, especially where, of the style of those in use in Europe, the soldiers secure their shovels and picks from the engineer's wagon. It has been carefully arranged, long before, rest assured, how this work shall continue, the initial cover dug, it is assigned who shall dig the main trench, who the others; who shall lay out the latrines and the rest stations; who shall dig the communications between these. At all this work none can hope to excel the young man from the country!

A Trench Built by Boys From the Farm

"The trenches themselves dug, timbers are inserted; these covered with disguise; and, again, it's the man who is used to cutting trees, working logs and brush into shape, for this or that purpose about a farm, who stands out pre-eminently at the task.

"Trench-digging does not finish with just the long trench most folk imagine, at the fore-front of activity, and those listed off a bit behind. At the front you have your squad trench, call it, this for eight men. Behind that is the trench of their officer. Midway behind the line of the trenches of stated number of such officers is the trench for their superior, in turn. Behind that, behind the line of those, rather, is that of the man over them; and all are to be connected with the others and with latrines and so on, in turn.

"Naturally, men off the farms soon get expert in trench-digging and, in ordinary soil, can dig a trench for the squad of eight in an hour and a half; this the usual or 'standing trench' type. This is then covered with timber and dirt, and that may take a little while more; but for rough estimate one might say ninety minutes will complete the average trench. Where stone is to be dug into, this time runs up tremendously. Behind Ft. Bliss, at one time, we dug trenches in a curious "caliche,' or cement-rock, that almost turned the men's picks; but the boys dug the pits just the same."

All of which gives a clue to the stupendous value of these men to the army.

In fact, modern warfare—land warfare that is—and the trench seem almost synonymous today.

In the Plattsburg Manual, which is standard for the officers' reserve corps

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Colorado State Grange Speaks Out on Timely Issues

TAXATION, BEET PRICES, FARM LABOR AND OTHER PROBLEMS

SPEAKING for thirteen thousand farmers, the Colorado State Grange, in annual session at Denver the week of January 15, proclaimed loyalty to the nation's cause in the war, condemned profiteering, urged a more equitable distribution of the burdens of taxation, cautioned against unnecessary public expenditures during the war period, because every dollar is needed in winning the war, advocated the conscription of the labor of the idle rich and the idle poor, and went on record favoring other helpful things in advancement of agriculture and bettering the social, moral and material conditions of the farmer. The session was pronounced the most successful in the history of the Grange.

Unanimity of purpose and harmony characterized each business session. The broad spirit of co-operation was reflected in all action, and appreciation of those who have been instrumental in the wonderful growth of the order during the past year was reflected in the unanimous vote by which the officers were re-elected.

A few of the good things developed at the session are given herewith. Other particulars are to follow in subsequent issues. Among the resolutions adopted was one calling upon the federal government to investigate the sugar industry, to determine the cost of producing sugar and the cost of the raw material and equalize the profits between the sugar factory and the grower. The resolution condemns profiteering of the sugar manufacturers and their prac ice of appealing to the patriotism of the grower to their own betterment and at the grower's expense. A copy of this resolution has been forwarded to the Food Administration and to each of the Colorado senators and representatives at Washington, in the effort to have the investigation made immediately, so that there may be no interruption of beet growing, which is threatened because the price offered by the factories to the growers for the 1918 crop is considered unfair.

The taxation resolution voiced a protest against extravagance and unnecessary expenditures in public work during the war "when every energy should be devoted to the winning of the war and all tax burdens diverted to that cause. Let us use our influence during this war to prevent heavy expenses for local needs. Local levies have become so high that it is time to call a halt. The state levy has increased 50 per cent; many counties have increased their levies to the extent of 50 per cent. Many school districts have made still greater increases to be paid in taxes this year."

The resolution goes on to state that, while much of the increase is for essential work, property owners are cautioned to watch carefully and ascertain where and how the money is spent. It is further urged that all property be assessed at its full cash value. "While we are willing to have our farm lands, buildings, livestock, machinery and other property assessed at what it is worth, we demand that all other property, such as merchandise, factories, industrial establishments, notes, money, credits, metal mines, coal mines, the railroads and all public utilities be equally assessed at full value."

Further the resolution urges the county assessors to work in harmony with the state tax commission in bringing all assessments up to the full cash value, in order that the burden of taxation may be equally borne. It is urged that all idle, uncultivated land bear an equal tax with improved land, which would increase crop acreage and materially aid in relieving the world's food shortage by causing the cultivation of such land.

On the subject of the conscription of labor the Grange expressed its will as follows:

"Believing that the government realizes that it must cease to drain our country labor and knowing that we have in our midst the idle rich and the idle poor who should help fill the ranks of labor, remembering the injunction that man must live by the sweat of his brow, we submit the following: Resolved, by the Colorado State Grange, that we ask the committee on legislation to demand of the government the registration of all, and that every able-bodied man shall either labor in production or go to the trenches."

The prohibition resolution declared that the present permit law in Colorado is unsatisfactory and it endorsed the Anti-Saloon League bone-dry law and urged the election of legislators pledged to the ratification of the nation-wide prohibitory amendment.

A resolution was adopted calling the attention of Director General McAdoo of the federalized railroads to the opportunity for the government in building the James Peak tunnel. The accomplishment of this project would release billions of tons of the highest quality bituminous coal, which literally lies on the surface in Moffat and Routt counties, besides affording an outlet to vast quantities of foodstuffs that could be produced by a rapidly settling country now served by a single line of railroad that is closed by snow many days in the year because it must cross the Continental divide at an altitude of over 11,000 feet.

It was decided to bond all state and local officers and purchasing agents, the cost of this to be borne by an assessment of $2.50 per year against each local.

Dues were raised from $1.20 to $2 per annum, one-half to go to the local and the balance to the state organization.

A suitable medal for use on the front of automobiles bearing the insignia of the Patrons of Husbandry will be selected by order of the Grange for use of all auto-owning Grangers who may desire thus to indicate their connection with the organization.

Western Farm Life was again decided upon as the official organ of the Colorado State Grange, and the magazine was given permission to use this official designation in its editorial heading.

Another of the important resolutions was one calling upon Governor Gunter to compel the Antero and Lost Park Reservoir company to keep the Plum Creek flume in repair, reciting that the farmers of the district had lost $200,000 in crops by the breaking of the flume and the subsequent flooding last year.

The report of State Purchasing Agent Scruggs showed that approximately $300,000 worth of business had been done by that department, at a saving of 20 per cent to the Grangers who took advantage of this feature. Similar good reports were made by other departments which will be touched on in future issues of the magazine.

Colorado Farmers' Congress Pledges Its Loyalty

INNER WORKINGS OF NON-PARTISAN LEAGUE EXPOSED

ALVIN T. STEINEL

WAR was the dominant note at the annual session of the Colorado Farmers' and Farm Women's Congress in Fort Collins the week of January 15. On the opening day there was a rising vote of confidence in the government and its war aims, every farmer pledging himself anew to do all in his power to help win, even to the sacrifice of himself and his goods and chattels. As had been anticipated, the National Non Partisan League had its paid attorney on hand to deliver an address, in the effort to stem the tide of disapproval which has set in among Colorado farmers who are for the first time beginning to realize that this movement is inimical to the war aims of the national government and that its founder and president, A. C. Townley, is the friend and political confidant of the discredited LaFollette whose right to a seat in the United States senate is now being contested by loyal organizations and citizens of his own and other states.

Tom Herrington, a Denver attorney. appeared for the league.

Senator Agnes Riddle stood practically alone in a fight against the organization. There were many men in the hall that night who were in full accord with Mrs. Riddle's views, but who did not care to publicly express themselves. Being in possession of information which David Halls, the retiring president of the congress, had asked for regarding the leaders of the movement, the writer told the congress of the connection between Townley and La Follette, the latter having made a scurrilous attack on the government and its war aims before a convention called by Townley, known as the Producers' and Consumers' convention, held in St. Paul, Minn., Sept. 20 last. Senator La Follette was the chief speaker on that occasion. The gathering was literally packed with malcontents, radical opponents of the government, and pro-Germans. It was so notorious that the people of St. Paul and of the state of Minnesota later made public protest to show that they did not endorse the meeting nor the remarks of La Follette on that occasion. There were undoubtedly many good and loyal farmers in that audience, but the meeting in its effect was absolutely disloyal.

Since that meeting, as I pointed out, Townley and his associates in the management of the Non Partisan League have never said one word in repudiation of the sentiments expressed by their friend, La Follette, who at that time, according to reliable reports, was hoping to become the presidential candidate of a peace party. It is true, as stated on the floor at the congress by a Colorado member of the Non Partisan League, that La Follette had been asked not to make a radical talk on the war at this meeting, but that questions fired at him from the audience caused him to "lose his head." For the sake of those who wish to be careful in these war times concerning the political causes they espouse, it is just as well that La Follette did "spill the beans" for if he had treason in his heart it served the country's cause to give it public utterance, so that none may mistakenly trust him.

There was not time at the Fort Collins meeting to go fully into the details of the La Follette speech, but I shall quote extracts from it here as given in an address by Senator F. B. Kellogg of Minnesota, in presenting the petition of the Minnesota State Untilities commission asking the unseating of La Follette. These extracts are to be found in the Congressional Record reporting the Kellogg speech delivered Oct. 6, 1917:

What La Follette Said

Now, fellow citizens, we are in the midst of a war. For my own part I was not in favor of beginning the war. (Continued applause.) I didn't mean to say we had not suffered grievances. We had, at the hands of Germany, serious grievances; we had cause for complaining; they had interfered with the right of American citizens to travel upon the high seas on ships loaded with muntitions for Great Britain. (Applause and yells.) And, gentlemen, I would not be understood as saying we didn't have grievances; we did, and upon those grievances which I have regarded as insufficient, considering the amount involved and the right involved, which was the right to ship munitions to Great Britain with American passengers on board to secure a safe transit. (Laughter and applause.) We had a right, a technical right, to ship munitions, and the American citizen had a technical right to ride on those vessels. I was not in favor of riding on them (laughter) because it seemed to me when the consequences resulting from any destruction of life that might occur would be so awful, I say (a voice, "Yellow")—any man who says that in an audience where he can conceal himself is yellow himself. (Cries: "Put him out.") I say this, that the comparatively small privilege of the right of an American citizen to ride on a munition-loaded ship flying a foreign flag is too small to involve this country in a loss of millions and hundreds of millions of lives. (Applause.)

The League Stood For It

There was more of the same kind; more of utterances that should raise the anger of any liberty-loving American when he thinks of the 800 innocent lives blotted out by a German torpedo that sunk the merchant ship Lusitania without warning. **Two hundred were American lives and there were scores of women and children among them.**

And Townley took all this; the convention stood for it and to this day there has been no word in the organs of the Non Partisan League in repudiation of these utterances.

Every citizen has a right to his own opinions regarding political matters, but there are two strong reasons why the Non Partisan League does not deserve the support of Colorado farmers. The first is the taint of La Folletteism upon its leaders, and the second is that, with the nation in a struggle involving its life or death, we have no right to take up movements contemplating radical changes in the state's system of government and calculated to array class against class in a political struggle at home while we should be united in fighting the foe that threatens abroad.

I talked to some of the farmers who joined the Non Partisan League and I found that in many cases the organizer got the farmer's money thru the use of influential names, or the personal solicitation of some man of political influence in the community. One man I talked with was out in the field irrigating when the organizer came, in company with a county commissioner. In a few minutes this farmer, influenced by the county commissioner who insisted that the league was a good thing for the farmers, decided to join and paid his $16 fee. This was done in many cases, absolutely without giving the farmer a chance to think about the matter and often thru the knowingly false use of names of influential men.

Senator Riddle was frank enough to state to the congress that she had been persuaded to join without knowing just what the league was or who is leaders were. She declares that her name was placed on the list of the executive committee in Colorado without her consent. When she found out something about the financial arrangements, namely, that the money collected in Colorado was to be sent to North Dakota, or rather to headquarters at St. Paul (minus, of course, the $4 fee which the organizer retains as his commission out of each membership fee collected) she made an investigation which convinced her that the movement was mercenary. She then withdrew from the organization and she is trying to do everything in her power now to offset the use that was made of her name in soliciting among the farmers.

The organizers are still out over this and neighboring states handling the matter just as tho they were selling fake oil stock.

I am aware of the fact that some mighty good men belong to the Non Partisan League in Colorado and in other states, but these men are assuming no responsibility for an accounting for the $70,000 to $80,000 collected in this state from their fellow farmers, which (with the exception of the agent's commission) was sent to headquarters at St. Paul, where three individuals, unincorporated and not financially responsible to anyone, are in charge of the funds that are being collected in fifteen western states on the same plan. Townley, the league's president, is a self-confessed bankrupt. He says "big business" forced him to the wall when he was engaged in some kind of a farming venture.

This explanation is due the farmers who have joined or who have been asked to get into this movement, which will not be discussed in these columns any more than is absolutely necessary. I do not believe in the policy of "hands off" regarding political questions while the nation is at war and I feel that Western Farm Life would not be true to its object in standing for the best things in agriculture, if we failed to give our readers such information about this movement as is public property. Any movement that cannot bear the light of day on its founders and their political associates and friends should be avoided.

Summary of the Resolutions

Following is a summary of the resolutions adopted by the Congress, practically without controversy:

Urge each owner of land in Colorado to go to the extreme limit in holding places on their farms for Colorado soldier boys when they return from the war;

Urge the state council of defense to confer with the federal commissary department and the United States food administrator, concerning the establishment of a food product purchasing station at some central point in Colorado;

Recommend that, because of the urgent demand of the government for an increase for products of wheat, sugar beet, corn and livestock that the acreage of potatoes in Colorado be not increased over last year;

Urge the people of the state to consume home products to the greatest possible extent instead of using luxuries;

Favor a constitutional amendment providing for state mining of coal and the reservation of all coal and mineral land for the benefit and use of the people;

Urge the immediate granting of all 640-acre homestead claims whenever they comply with the law;

Approve the bill now being initiated for the united workers for the blind in Colorado, entitled, "A bill for an act for the relief of adult blind;"

Extend to the authorities of the state agricultural college the hearty congratulations of the congress and approval of the manner in which the great agricultural interests of the state are being administered and conserved.

Officers were elected as follows: N. C. Dougherty, Greeley, president; George McCarroll, Denver, first vice-president; Edward Claussen, Carbondale, second vice-president; H. T. French, director of extension at the college, continues to act in the capacity of secretary-treasurer. The executive committee is made up as follows: Denver district, John Grattan, Broomfield; Plains district, J. G. Evans, Wray; Northern district, R. M. Haythorn, Eaton; Western district, Dr. H. K. Porter, Delta; Southwestern district, David Halls, Mancos; San Luis Valley district, M. T. Lightner, Monte Vista; Northwestern district, George Bushyager, Craig; New Plains district, J. W. Adams, Cheyenne Wells; Arkansas Valley district, H. W. Bowman, Trinidad.

Federal Land Bank

A. D. Wall, chief appraiser for Colorado of the Federal Land Bank, explained the delays incident to getting farm loan money out to the borrowers. He declared that there had been considerable misunderstanding over the matter of the loan limit, the borrowers taking it for granted that the bank would loan up to the maximum of 50 per cent of the land value and 20 per cent of the insured improvements. There is nothing in the law making that compulsory, he said, and the bank officers have adopted a conservative policy, operating much like a private loaning corporation in respect to values, the chief advantages of the federal over private systems being low interest rate, long time and amortization payments.

It is a misnomer to call the farm land banks government institutions, Mr. Wall declared. "The government only advances a little money to make change. It is the farmers' system." In granting loans the policy is to give the maximum on a first-class farm, run by a good farmer, located reasonably close to transportation. The land bank is not a charitable institution and it must be run absolutely on a business basis or its bonds will not sell. Loans in the ninth district, of which Colorado is a part, now amount to about one-fourth of the total made by all the banks, this total being $30,000,000. Colorado farmers have borrowed about $1,500,000 of this.

The farm loan board, said Mr. Wall, takes the position that the money is to be loaned to general farmers and not to those engaged in special lines, such as gardening or orcharding. This point is not pleasing to many Colorado farmers in the trucking and fruit districts, who believe they should be entitled to loans the same as farmers operating on the extensive plan. Another policy of the board that has been severely criticized is the refusal to consider purely grazing land as having a loan value. Many western farmers derive a large portion of income from grass, either as beef or milk. This is sound and safe agricultural practice and it should be encouraged by the land banks.

State Loan Fund

John E. Field, engineer for the State Land Board, explained the policies of the board in regard to the state farm loan law, leasing and sale of the state lands. Colorado owns over 3,000,000 acres of land held in trust for the school fund. Agricultural lands are sold at monthly auctions and recently, Mr. Field said, non-irrigated land in the eastern part of the state had brot $40 to $53 per acre. The board is continuing its policy of keeping the "big pastures" intact for the reason, Mr. Field explained, that these lands are more valuable for grazing than for general agriculture.

The first loan to any farmer has just been approved by the state board. Under the law the limit that can be advanced to anyone is $2,500, and the loans are made on a maximum of one-third the actual value of the land on one to five years' time at 6 per cent interest. The board has on hand about $900,000 which can be loaned to farmers. The terms are not nearly so favorable as under the federal farm loan system, thru which the farmer can get money at 5½ per cent on 36 to 40 years' time, if desired, with repayment on the amortization or installment plan.

Uncompahgre Project Silos

Mr. H. A. Lingren, in charge of the United States Department of Agriculture under the Uncompahgre project, furnishes us with very interesting data regarding the silos constructed in this valley:

"A recent silo survey, taken on the Uncompahgre project, has brot out some very interesting information. The steady growth in number of silos since the first were built here in 1914, shows that the farmers are gaining faith in ensilage feeding. In 1914 four silos were built; 1915, fifteen; in 1916, thirteen, and in 1917, twenty-nine. This makes the total number of silos sixty-one, with a total capacity of 7,762 tons. There has been 5,354 tons of silage put up this year in the sixty-one silos.

"There are several types of silos in use on the project as follows: Thirty-five wood, nineteen cement-stave, four steel, two hollow tile and one pit. The average cost per ton capacity of fifty-three of the silos was $3.91.

"The total value of the 5,354 tons of silage amounts to nearly $50,000. The total cost of the sixty-one silos at $3.91 per ton capacity is $30,349.42. The hay displacement value of the silage amounts to $40,000.

"Most of the silage will be fed this season to beef cattle. Dairy cattle and sheep will be fed a proportionate share. It is hoped that for the beneficial results from silage feeding that the number of silos will continue to increase."—Delta County Tribune.

Spud Grower Can Control Set

IRRIGATING UP IS THE SECRET OF IT

THAT the "set" of potatoes can be controlled by the irrigation grower is the opinion of W. R. McClellan, of the Greeley district, whose conclusions are given in Bulletin No. 1, issued by him in the interest of his seed potato venture. The secret of this control is "irrigating up" and how to do that is explained in the following suggestions given by Mr. McClellan, based on his own and the experience of other of the old-time growers in the Greeley district.

The writer takes the ground that this matter of set can be controlled by the grower in the irrigated section. If the plant has to set in dry ground it will be a light set. If the ground be reasonably moist the set will be heavy enough. To make these conditions the grower should plant his seed and cultivate as usual, then ditch out and irrigate every other row, if on flat ground, and every row, if so steep that water runs thru rather quickly. Then as soon as a team can work in the field, harrow diagonally across. This covers up this moisture and conserves it and also leaves nice dirt for vine to come up thru. This forces a quick, vigorous growth and will carry the plant thru the dry time last week of June and the first part of July and, if well cultivated twice after they are up, it will carry the Rural up to August 1st usually. When this has been properly done I have never seen a poor set nor a crop failure if properly handled later on. On the other hand, if the ditching be poorly done and water be allow to break over in such places the stand will be poor and the results not at all satisfactory. Then as soon as the plant starts to set and you find small potatoes as large as peas, they should be watered as lightly as possible and the ground never be allowed to get real dry.

The Rural and Pearl grow very differently. The Pearl grows a bunch of vines often 12 inches in diameter and about middle of July starts setting and growing vine at the same time. If hot and dry as it often is, the set is light and, when irrigated, if they have run too long they either set too heavy or more often grow very rough and out of shape and knobby.

The Rural grows a tall stem very slowly apparently, but you will find a nest of fine roots under it very much more than the Pearl and does not set until in August, when it is not quite so hot. Along last of July you find an inch or two under the ground several large white stems starting out and they throw out fine side roots and keep gathering food and soon turn up and come out to the light and suddenly you find your Rurals very bushy. They soon drop down and you find them sending out tuber stolons and setting. The abundance of fine roots now help along with these new side shoots to draw plant food, and for this reason the extreme heat in August and September does not acect the crop as in the Pearl and other varieties. We usually have three of these hot spells, one in July, one about the middle of August and another the forepart of September, which often cut the yield more or less in most varieties, and for this reason I believe the strong, vigorous Rural is better for most of our late crop.

In the next few years we are going to meet very strong competition from the east in all our natural markets, as Wisconsin and Minnesota are spending lots of money educating their potato growers. Their slogan is, "Plant only good ground with manure if possible. Plant 3-foot rows, 12 inches in row, so as to make a smooth, even potato such as the trade in all cities is calling for. Look well to good seed; quality and yield," and they have increased the yield in Wisconsin in the last seven years as a state 40 per cent and improved the quality 50 per cent, and we must follow suit or be left in the game.

In view of these facts I want to urge all growers in the irrigated section to first get the very best seed possible and plant enough in a seed plat to grow enough for your seed the next year. Plant 11 inches in row, or if very rich ground, 10 inches better. Dig early and do this each year. Unless you want to dip in corrosive sublimate and spray and rogue out all weak or diseased hills and have a natural potato soil, you had better, for this seed plot, buy every year from a dependable pure seed grower and plant only good ground. The expense of raising is too much to waste on poor ground. On flat land rows should be 38 to 40 inches, so you can make a deep ditch and not flood the ground. If good fall, so a shallow ditch is good enough, then 36-inch rows are better. Then prepare the ground properly, as it pays. Plant with care 12 inches in rows not too deep, if early, and cultivate as soon after planting as possible to stir up the horse tracks which, in a few days, become hard and will never work up. Then ditch out as suggested above; irrigate and as soon as possible harrow diagonally across and if you handle intelligently from that on, I feel sure you will have a crop that will satisfy you and your customers. This irrigating before they come up puts moisture under the roots to carry it until it is ready to set. Otherwise it often comes to the time when they should set and they do not, and the grower looks at them and does not know what to do. If he irrigates and it is hot, they may blight, and so he is in a quandary as to what to do. If there comes a light shower his problem is solved, as they start setting at once and he can irrigate. We have all had this problem up to us. But this "irrigating up," as we call it, avoids it, as they will set when the time comes and you can water and make no mistake.

These suggestions are not merely theories, but have been proven by most of our best growers in the Greeley district, especially applicable to heavy land or a dry spring, and work well at all times. And all ground if done properly and with good judgment. I firmly believe with this good, healthy seed we should make an average of 200 sacks per acre on a 3-year course on good ground and expect to see many of our best farmers on matured land reach 300 sacks.

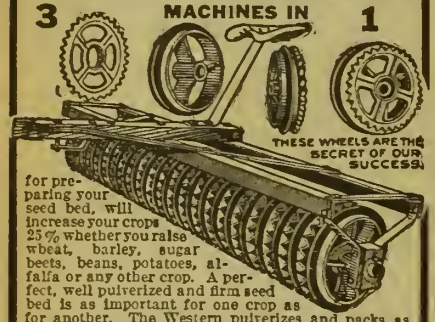
Practical Articles Suit Him

Yours attached of 3rd inst. As near as I can ascertain this article appeared in your paper between March, 1915, and August of same year. However, if you are unable to locate same, just drop the matter, as it pertained to the care of berries and small fruits and system followed by this man in caring for bushes during winter to prevent winter killing and the production of early fruit, and was taken from Kansas where the climate is very similar to this locality, I was very much interested. But whether you find the article or not, kindly send me your paper at once, and send me the bill for one or three years subscription. Will remit promptly as explained in former letter, as I have read many farm papers but have never found one that came up with yours for right down practical farming ideas, especially for this part of the west where we are about equally divided between farm products and livestock.

Thanking you in advance for interest shown, I am, yours truly.—R. C. Blaine, Gering, Neb.

USE THE WESTERN PULVERIZER, PACKER AND MULCHER

3 MACHINES IN 1



for preparing your seed bed, will increase your crops 25% whether you raise wheat, barley, sugar beets, beans, potatoes, alfalfa or any other crop. A perfect, well pulverized and firm seed bed is as important for one crop as for another. The Western pulverizes and packs as deep as plowed and leaves a loose mulch on top to protect the moisture; saves 1-3 of expensive seed and time, labor and horse power in preparing a seed bed. It is especially adapted for breaking crust and cultivating winter wheat in the spring, or for breaking crust on sugar beets or beans either before or after they are up without injury to the plants.

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1918 crop will bring war prices; make it a record breaker in size by using the Western. Send for our free illustrated catalog, giving full description of the machine and its work, also dealer's name and much other valuable information.

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E-Z-M-T Indoor Toilet

Odorless and Sanitary

Why go thru another winter exposing your family to the dangers and discomforts of an outdoor closet? An EZ-MT INDOOR TOILET costs about the same as the outdoor privy. Saves its price in doctors' bills the first year.

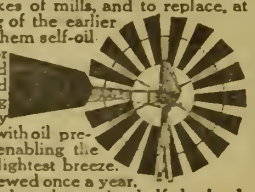
30 Days Trial-Money Back Guarantee

No sewer or cesspool. Germs and odor killed by our special chemicals. Requires about 10 minutes attention a month. Handsome appearance. A western product; no high freight to pay. Write for literature, prices, etc. Agts wanted

EZ-MT CHEMICAL CLOSETCO. 1650B Champa St. Denver, Colo.

THE SELF-OILING WINDMILL

has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load



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Then you can get an Avery Plow and an Avery Thresher to fit any size tractor, and you have an equipment of Tractor Farming Machinery that will enable you to raise a larger crop at less expense and save it after you raise it.

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They are the only tractors with renewable inner cylinder walls, crankshafts one-half the diameter of the cylinders, adjustable crankshaft boxes, no fan, fan belt, governor belt, fuel pump, or water pump.

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You can get an Avery Tractor Plow, either light or heavy, in any size from 1 to 10 bottoms, and an Avery Thresher in any size from a small 19x30 inch up to a large 42x70 inch.

Write for the 1918 Avery Motor Power Book

It shows all Avery machines in their natural colors, both stationary and actual working scenes. It has unusual detailed illustrations of tractor construction. Write for free copy and ask for special information about the size machines you need. Address

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Get a Guaranteed Avery Grain Saver Thresher in any size, 19x30 inch up to a large 42x70 inch.

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THOUSANDS of farmers living in every part of the United States save 25% to 33⅓% by taking advantage of my low factory prices. For many years my low prices for highest quality fence have saved to farmers hundreds of thousands of dollars. Their savings this year bigger than ever.

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Only the best wire nsed. Only the best wire workers employed Ottawa fence ie heavily galvanized. Withstands all weather conditions Flexible tie insures most even etretching over rough ground, giving npstanding fence utmost dnrability. Quality first, last and all the time—that'e our motto. If it ie not jnst what I claim—I will want yon to return it at my expense. You can be enre that every rod of fence yon get from me will be perfect in every respect.

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Send your name and address now and I'll mail you postpaid my Free Book of Wire Mill Bargains—164 different styles at factory prices. See how much you will save.

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If you will write me at once, I will explain how, with little work this winter, yon can secure a brand new Ford car witbont a cent of expense. Just one grown man in each town—no boys. Not a lottery; guaranteed by million dollar capital.

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WITTE "Kero-Oil" Engines

Immediate Shipment—All Styles—2 to 22 H.P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.

2640 WITTE ENGINE WORKS 2640 Oakland Ave., Kansas City, Mo. Empire Bldg., Pittsburg, Pa.

I Save You $15 to $200

Shortage In Sudan Grass Seed

DROUTH IN SOUTHWEST CUTS THE YIELD

R. E. Karper, Texas Agricultural Experiment Station

THERE is a general shortage of sudan grass seed again this year. The situation is very much the same this year as it was last. The regions in Texas, Oklahoma, Colorado and Kansas where the bulk of the seed of this crop is raised every year have seen very adverse weather conditions the past season and consequent short crops of seed were produced on account of the lack of rainfall. Another reason for the scarcity of seed is the early frost which occurred in most sections of the Great Plains where this seed is raised, last year. The cold and backward fall prevented large areas of this crop from fully maturing seed. The cool fall was accompanied in many sections by high winds. Sudan grass ripens its seed rather ununiformly, and where the winds are high the plants are whipped about and a large amount of the seed threshed out in the field and wasted. I have seen fields of sudan grass that looked good for a seed crop of 500 pounds to the acre or more and after a day or two of high winds, upon harvesting and threshing they turned out less than half that amount, and the ground was literally covered with seed which had blown out. Farmers who grew this crop for seed purposes the past two years have learned a few more things about it. One of the things is that cool and backward growing falls are apt to occur at these altitudes and the high winds will whip the seed out about as fast as it matures and they are consequently liable to lose practically half of their crop over night. When a seed crop is desired it is advisable to take the first crop for seed, especially if the season is dry and there is not moisture enough available to push the crop along to rapid maturity. It is well to plant early enough to permit of getting the seed crop off in the early fall if possible.

There was a good large acreage planted to this crop with the idea of growing seed the past year, due to the high price of seed last year and the probability of its being a good price again this year. Had all this area produced good crops of seed this year there would have been an ample supply of seed available. Much of it had to be planted late owing to the dry spring, and often where a seed crop was expected only a hay crop was obtained. I know of one farmer who planted 200 acres for seed and had to cut 130 acres of it for hay because it did not have time to mature seed. From the other 70 acres which looked like it would make 300 pounds to the acre, the winds got about 200 pounds and he finally threshed out around 100 pounds to the acre, making in all about 7,500 pounds of seed from his entire acreage. Of course, the hay produced was worth around $25 per ton.

Where sudan grass was given anything like a chance last year, as dry as it has been, it has made one good cutting of hay and sometimes two. It has still further proven its value. As it becomes more widely distributed and generally grown each farmer will plan on growing seed for his own use and a shortage in seed supply will not be so keenly felt. In fact, this is now the reason for the situation not being more acute than it is. The crop is more widely distributed than it was last year and there are a larger number of farmers who have produced sufficient seed for themselves and a little to spare their neighbors. Very much the same scarcity of seed exists with all the sorghums this year. Much of it will be needed and will be used for feed which should be saved for seed purposes. There will be an increasing demand for all these crops as spring draws nearer. The price will be higher then and it will be harder to find, so now is the best time to get what is needed.

SUDAN GRASS AS A DRY LAND HAY CROP

L. E. Bennington of Forder, Colo. (altitude, 5,000 feet; average rainfall, 15 inches), grew a good crop of sudan grass, as will be seen by the accompanying illustration. He writes:

"Enclosed find picture of sudan grass raised from seed which you sent me in 1916 as a premium with my subscription to Western Farm Life. I selected this seed from my field. What you said then regarding the quality of seed you were giving away was correct. This field had been planted 80 days when picture was taken. This is a remarkable growth, inasmuch as there has been scarcely any rain since June 10th, one inch at most being the only moisture since that date. For a dry land hay crop sudan grass is it. I take this means of thanking you for furnishing me with high grade seed." (Letter was written September 24, 1917.)

Ice Water for Stock?

While visiting a farmer who feeds cattle and hogs for profit, as well as pleasure, he showed me his water tank which furnished his stock during the winter. I noticed that the cattle drank freely. There was no ice in the water. By looking closer, I saw a tank heater which kept the water from freezing.

The farmer said that the tank heater cost less than $8, and that he never had to look after the fire in it more than twice a day. He remarked that he preferred to use coal or wood to heat stock water instead of using grain and hay which cost from one and one-half cents to three cents per pound. Coal costs less than one-half cents per pound now in most places. If ice water is drank by a cow, it uses considerable feed to warm the water to body heat. What farmer would burn corn to heat water for home use. Why should we burn grain to heat water for stock?—J. E. Payne, Frisco R. R.

Big Yield of Alfalfa Seed

The Boon brothers made an accidental experiment in growing alfalfa seed at Redvale last summer. They had a four-acre patch of alfalfa lying above the ditch where it was difficult of irrigation. On account of lack of help they gave it no water for two years. The second summer, that of 1917, it grew very much less rank but blossomed so prolifically that they let it stand to see if it would mature seed. The result was three thousand pounds of good plump seed from four acres of dry farm alfalfa. They expect to get twenty cents per pound for the seed. Six hundred and fifty dollars to the acre, and nothing except harvest and thresh it. Thus they farmed with their heads while others were using steel pointed plows.—S. A. S. in Montrose (Colo.) Enterprise.

The farmer must keep a set of books, for it is absolutely impossible to analyze a business for profit and loss without a well-kept set of books.

IRON AGE
GARDEN TOOLS
Answer the farmer's big questions: How can I have a good garden with least expense? How can the wife have plenty of fresh vegetables for the home table with least labor?
IRON AGE Combined Hill and Drill Seeder
solves the garden labor problem. Takes the place of many tools—stored in small space. Sows, covers, cultivates, weeds, ridges, etc., better than old-time tools. A woman, boy or girl can push it and do a day's hand-work in 60 minutes. 30 combinations, $4.50 to $30.00. Write for booklet.

Bateman M'f'g Co., Box 98C, Grenloch, N.J.
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Cleveland Tractor
Does the work of 9 horses and 3 men

Even if horses and men were plentiful, the Cleveland Tractor would do your work faster and at much less cost.

With the Cleveland pulling two 14-inch bottoms, it can plow up to 3½ miles an hour—*8 to 10 acres a day.* That is more than you can do with 3 good three-horse teams and their drivers.

But labor is scarce. Horses are scarce. The urgency of the situation demands farm tractors. The government urges their use.

The Cleveland Tractor not only works faster and cheaper than horses and men —*but far better.* With its aid, you can increase your production and reduce the cost.

That means more grain for Uncle Sam —*and more money for you.*

Because the Cleveland *crawls on its own tracks,* it can go almost anywhere. It weighs less than 3200 pounds and has more than 600 square inches of continuous traction surface—a bearing pressure of about 5 pounds per square inch.

Because of the small size of the Cleveland Tractor it can be turned in a twelve foot circle and housed in less space than it takes for a horse.

Its small size enables it to pass through narrow spaces between buildings, through wooded grounds, through doors and other places where larger machines cannot go.

The work in which The Cleveland Tractor can be used to accomplish more, and with greater economy, is almost endless—plowing, harrowing, discing, seeding, pulling a mower or binder, hay loader or manure spreader.

It is *the* tractor par-excellence for hauling of any nature, in excavating, road grading, pulling a snow-plow or stone-boat, in fact almost anywhere that motive power can be utilized.

Delivering 20 horse-power at the pulley, it supplements its hauling capacity by almost innumerable uses for stationary work, such as wood sawing, pumping and irrigation work, feed grinding, hay baling, corn shredding, corn shelling, ensilage cutting, silo filling, threshing, and many other uses where power is needed.

Rollin H. White, the famous motor truck engineer, is the designer of the Cleveland. He uses only the finest motor truck gears and materials. Gears are enclosed in dirt proof, dust proof cases.

Get ready now for spring work. Prepare for the bigger, better crops America expects of you and must have. Write us today for a complete description of the Cleveland Tractor and the name of the nearest Cleveland dealer. Address Dept. AH, or use the coupon.

Cleveland Tractor Co. Dept. AH, Cleveland, Ohio
Please send me full information about the Cleveland Tractor.
Name_____
City_____
County_____ State_____

The Cleveland Tractor Company, Cleveland, Ohio

Western Farm Life

Issued the 1st and 15th of Each Month.

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DEPARTMENT EDITORS

E. R. PARSONS.....Dry Farming
GEO. E. MORTON..Dairying and Hogs
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Conserving Our Food

At the end of last summer when Cadorna's army was on the point of making a break in the Teutonic lines, Italy ran short of wheat. In September the bread ration of the Italian soldier had to be cut from 750 grams per day (about 1½ lbs.) to 600 grams. This may have had something to do with the giving way of the Italian line in October.

The United States Food Administration was not created until August and part of its work is to distribute food materials so as to prevent just such contingencies as happened in Italy.

One of its tasks is to save the more concentrated forms of food, to lessen unnecessary consumption here so that it may be shipped to Europe.

Mr. Hoover asks each of us to use one ounce less of sugar than we usually do. This is about one-fourth of our daily consumption. Our average has risen from 60 lbs. a few years ago to 90 lbs. per capita at the present time. If we cut down our ration of sugar by one-fourth we still will be using much more than we used a few years ago, and this saving will be no material hardship. The French are now down to an annual ration of only 18 lbs. and the Italians to 10 lbs. The American sweet tooth has been using 400,000 tons of sugar a year for candy. The administration asks the candy makers to reduce this to 200,000 tons.

The food control is also saving money for the American household. Last May wheat was $3.50 a bushel and flour over $7. Bringing wheat down to $2.20 for this year's crop has reduced the price of flour to about $10, and as America consumes ten million barrels of flour per month, the monthly saving in this one point is nearly $70,000,000.

The Food Administration opposes hoarding, partly because hoarding raises prices, but more because it keeps food out of the market at the very times when most seriously needed. This practice is largely controlled by the license system, for if a dealer is caught hoarding his license is liable to be forfeited and he is out of business.

Europe has the greatest need of wheat. It wants 400 million bushels more than the United States and Canada normally supply. The situation calls for a less use of wheat, both here and in Europe.

It is easier for us to eat less wheat than the French or the English. We have substitutes, as corn. Corn cannot be shipped as meal because it moulds quickly, nor in bulk, as mills on the other side are not prepared to grind it.

Less than one-tenth of our food budget goes for wheat products while more than one-half of the Frenchman's is used for bread and other wheat products. The Food Administration has established the one-pound loaf as a standard unit, while before their action the loaf was of all sizes. This standardization is of great use to the family because it clearly indicates what is being purchased.

While the average price of wheat is two and one-half times what it was before the war, the price of bread has generally increased less than 30 per cent. This has involved the co-operation of bakers thruout the country. And this has been freely given.—Colorado State Council of Defense.

✦ ✦ ✦

Having Their Seed Tested

Test your seed corn. That applies to Colorado farmers as well as it does in the corn belt. Soft corn—which means no germination and poor feed that would not stand shipping—is the rule in the big corn states. Colorado had an unusually long fall but the corn in some of the eastern counties is, nevertheless, not well matured and, therefore, low in germination. Samples sent in by farmers to the state seed laboratory at Fort Collins where tests were made, bear out the assertion that every ear planted this spring should be tested for germination. This is good practice at any time and especially so in this war crisis, when every dead grain put into the ground not only means loss to the farmer but to the nation.

Delegates to the Farmers' Congress at Fort Collins inspected the seed laboratory, where they were shown the methods used in determining viability, purity and freedom from disease of all plant seeds for the farms and gardens of Colorado. Administration of the pure seed law, which was passed by the state legislature in 1916, is under supervision of Professor C. P. Gillette, director of the state experiment station. In direct charge of the laboratory is Professor W. W. Robbins botanist, and Professor G. E. Egginton, analyst and inspector. Tests are made free of charge for farmers and seedsmen. At the time of the congress over 700 samples had been received for testing; this is for a period of only three and a half months, the number being greater than the first full year's record of the Minnesota laboratory—and Minnesota is considered in advance of all western states in farm seed testing.

Everything in the way of seed is included in the samples submitted Corn, as has been stated, is showing up poorly. Pinto beans show high germination test; peas the same. Alfalfa seed is showing a high percentage of hard seeds. Unhulled sweet clover shows a low test, while the hulled seed shows up high, due to the abrasive effect of the hulling machinery.

Many samples of seed wheat are received for which the farmers did not even know a variety name, much less have any idea as to purity or trueness to varietal characteristics. In corn, too, there has been shown a great need for standardization of varieties.

The county agents spent considerable time in the laboratory during the congress and there was also a gathering of seed growers and dealers. The department is putting its work on a constructive basis. Details of the law will be explained with care. Many farmers came to the laboratory with a mistaken impression concerning the effect of the law on the sale of seed from farm to farm. The law applies to the farmer as well as to the seedsman, but it works no hardship on anyone. Strict compliance with its terms means the saving of thousands of dollars annually to the farmers because they know something about the seed they buy, as it must be labelled.

Any farmer interested may secure complete information and copy of the law by applying to Professor Robbins at Fort Collins, or sending his inquiry to Western Farm Life Service Bureau.

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Signing Smut Pledge Cards

In these days of signing pledges for this, that and the other worthy war purpose, it is interesting to note how the farmers of Huerfano county, Colorado, are assuming a written obligation of a unique form. This is a pledge to treat their grain seed for the prevention of smut. Losses from smut in grains have cost the farmers of America many millions of dollars in the aggregate. Now that this loss has such a direct bearing on the world's food supply it is of vital importance that every effort be made to prevent it. Therefore County Agriculturist Waldo Kidder of Huerfano county has hit upon this effective plan. Now when he attends a farmers' meeting and explains methods of seed treatment for smut prevention he can close his remarks not with the conventional, "I hope you will all follow this advice," but with the statement: "Now, then, all farmers who want to save themselves money and help conserve the world's food supply at the same time, will please step forward and sign this pledge card." Leading farmers in every wheat growing community over the large county have a supply of cards which they are passing around among their neighbors, and they are getting lots of signatures.

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Eat, Sell, Plant, Potatoes

It will be very unwise, and in effect it will be unpatriotic, no matter how innocent the intention may be, for either of the three factors—consumer, middleman, farmer—to fail in the performance of his part of the potato program—eat, sell, plant. If the consumer doesn't eat more potatoes, the middleman can't sell. If the middleman is hoarding and won't sell, the consumer can't increase his potato ration. And if the present potato surplus is not consumed this winter and spring the farmer will be reluctant to maintain a large potato acreage next year.

"And why is that so extraordinarily important?" some one may ask. For this reason—in the fall of 1918 we'll be in this war right up to our necks. Some things we're theorizing about now will be stern, everyday realities then. Every pound of food will count and count much. If the farmer hasn't planted potatoes in the spring of 1918 we won't have potatoes in the fall of 1918. And without potatoes next winter quite a few of us may be hungry—because we must send wheat and non perishables to the fighters first, and the civilians, for whom the soldiers are fighting, can eat what is left.—U. S. Department of Agriculture.

Texas and New Mexico and a small portion of southern Arizona will greatly increase their supply of stock feed by using mesquite beans. Some housekeepers are also grinding beans into flour which makes a most nourishing bread.

Why He Likes the Paper

As it is storming outside today, I want to write to you how much I appreciate the interest you take in us farmers, especially individual farmers. There are a good many useful hints in Western Farm Life for both farmers and the women folks. What I like about your paper is that it writes about the crops that are grown in Colorado and especially dry land crops. I read several farming papers from the east, but when I read Western Farm Life it doubles my interest.

We got thru digging our potatoes yesterday, and they made about 3,500 lbs. from about ¾ of an acre. We haven't threshed our pinto beans yet, as it is hard to get an outfit here. There are quite a few beans raised out here, most too many for one threshing outfit. We have put in about 90 acres of fall wheat, and we thot we would sow some macaroni wheat in spring. That is, if my brother isn't drafted. We also want to break considerable sod in spring for corn; that is, if we both can stay here. We have good productive soil. If we had a railroad close by, we would have a great future ahead, but if we have a good crop next year, we want to buy a truck to haul.

Hoping you won't tire while reading this letter, and wishing you success in your good work, I am as ever, Yours—Wm. Reck, Leader, Colo.

The Branding Iron

Applied by Elias M. Ammons

Save your calves and lambs and pigs, and keep them growing until ready for market, should be the slogan of every livestock grower.

✦ ✦ ✦

The first cost of everything is the price of food. The duration and expense of the war will be determined largely by the support given the farmers to secure the greatest possible production.

✦ ✦ ✦

The conservation faddists a few years ago induced the country to take a stand on water power development which stopped the investment of money in that business. Now we are paying the penalty. Coal for domestic purposes is high and scarcely to be had at all; and cities and towns are largely lighted and factories are run by power generated by coal; while metal mining operations are seriously interfered with because of the excessive cost of fuel. The government should back track on this foolish policy and offer every reasonable inducement for the extended use of wasted water power to save coal.

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News comes from Longmont to the effect that the Great Western Sugar company has purchased 100 goats for the purpose of grazing the ditch banks to keep them free from sweet clover. Not butting in at all, but this ought to remove the prejudice of the irrigation farmer against the sweet clover nuisance, because a use has been found for it as fodder for the sugar company's goat. Incidentally, may we hope that the beet grower isn't to be the goat any more?

✦ ✦ ✦

Now comes the announcement that Uncle Sam's agents are to regulate the binder twine trust. This bit of righteous performance prompts us to suggest there are a lot of other holdups in the brush along the road between the wheat field and the dinner table.

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The resolution adopted by the American National Livestock Association at its Salt Lake meeting in favor of suspending the enlarged homestead act during the period of the war was a blunder. Livestock production increases in direct proportion to increase of settlement and crops. Twenty years ago the range business was at its zenith in Colorado. At that time the output of both industries was the same, or $16,000,000 each. As the ranges were cut up and farming increased, livestock production has practically kept even pace until in 1917 the farms yielded $145,000,000 and livestock more than $140,000,000. The leaders among our rangemen should not make the mistake of standing in the way of the progress of the West.

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Shortage of wheat in France is becoming more alarming each week. Pastry is now classed as a luxury and its manufacture or consumption is now suppressed except on Sundays and holidays.

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Under new food regulations, the Swiss people are allowed only a pound of sugar per month per person. The butter ration is one-fifth of a pound per month.

✦ ✦ ✦

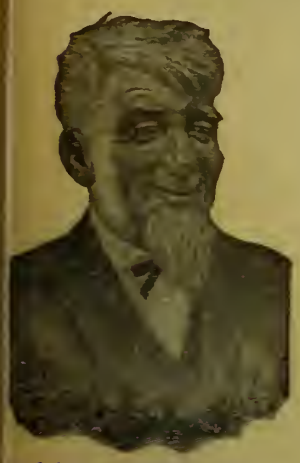
The U. S. Food Administration wishes to place the Irish potato every day in the year on every table in America. Potatoes furnish nourishment, bulk, mineral salts and a corrective alkalinity in the diet. They are plentiful this year and reasonably cheap.

Our Cover Picture

The cover picture shows how the young men and women at Colorado Agricultural college are taught the things they expect to do on the farm and in the home when they leave college. The upper view is of young men judging livestock; the lower picture shows the young ladies learning to make butter. During the recent Congress of Farmers and Farm Women at Fort Collins the visitors were privileged to see something of the practical work being done by the institution which has for its chief object the training of farmers and good housewives for the farm homes of the state.

Comment by Farmer Putnam

ATTENDS THE FARMERS' CONGRESS AND IS STIRRED BY THE PATRIOTIC ADDRESSES AND THE MUSIC



Denver, January 25, 1918.

JANUARY is allus a busy month fur us farmers. What with the State Grange, the Farmers' Congress, the Farmers' Union, the Stock Show, the Dairymen's Association, the Potato Growers, and Josephine wantin' me to learn to knit fur the Sammies, all comin' at onct, I been tolerably busy. I want to tell you-all now about the Farmers' Congress to which Governor Gunter sent me and Ed Foster and W. G. Jamison from down in Huerfano county as delegates-at-large. Jamison was the only one of us three that could qualify at-large, Foster bein' short on hair and me bein' a leetle stoop-shouldered and havin' a impediment on my chin.

Foster is our new immigration commissioner fur the state, havin' been appointed by the Governor because he didn't apply fur the job. He was the only feller that the Governor knowed or heard of that didn't have a bid in fur some job, and just to reward his modesty he got a three thousand dollar plum, and now he's tryin' to help make the state safe fur democracy.

Foster used to be editor of a paper up to Fort Collins when I was takin' in the farmer's short course at the college and he's the editor of the Weld County News now. He's got a habit of speakin' his mind thru the paper and some people likes it and some don't, dependin' on who is bein' gored.

When me and him got to Fort Collins, we found our other delegate-at-large, namely Jamison. The next day the Governor came up with retinew or council of warriors, includin' Mr. Mullen, Prof. Carpenter, Mr. Grant, etc.; the etc. bein' Dave Thomas, who is knowed as the power behind the state house. Dave is a feller that keeps in the background, but gits things done that the war council recommends. They used to have a feller in that job that went out over the state and commanded the people to do thus and so and they refused to do either thus or so. When he quit they got Dave Thomas to take on this work extry and now when people out over the state talks about the war council they shows some respect fur it.

The Governor made a long speech about the work of the council, showin' how some of the men gives all their time to the state without pay, everybody bein' willing to do his share to help win the war. Some folks has been kickin' about the war council—not about all of it, but about one or two men who wasn't doin' the people any service they claimed. I think some of this kickin' has done good, because it made public servants outen men that had been dictatin' to the public. I hope none of us is so uncharitable that we cain't give them poor rich men a fair show to see what they kin do to serve the people. This here war is bringin' us closter together and now you kin go to the war council and see the head of the millin' interests and the coal and iron interests attorney rubbin' elbows with the farmers' union and the laborers' union men. If nothin' else will do it this will make real men outen some of our millionaires and git 'em reconciled to the time that ain't fur off when they won't be no more millionaires. The war is goin' to git most of their surplus and after the war why people will have more conscience about makin' money and they'll know when to stop, or the law will stop 'em.

I wisht you-all could-a been up to the Congress. Dave Halls was the president till the end of the session. He comes from down Mancos way and he says that's so fur from Denver that it's in the backwoods. But when you know Dave a while you'll find him so durn well informed that fellers from Denver caln't put nuthin' over on him, even if they is lawyers.

Nearly all the talks we had was patriotic and some of 'em was reg'lar ripsnorters, among which was Rev. Monroe Markley of Longmont. When I fust seen him in the audience I thot maybe he was a poet that the draft board had overlooked, but when he got up on the stage and stretched his six foot and then some up to a full height and run his hand thru his hair, I seen that he was avoidin' the barber fur some good purpose. The hotter he got in his speech the worse his mane shook and when he come to the crisis I was settin' on the edge of my seat, ready to let out the rebel yell. Prof. Emslie was settin' near me and he sez:

"Be calm, Putnam, be calm."

How can a feller be calm when his patriotism is provoked by a long, ganglin' orator lookin' like Abe Lincoln, who fans the air with his fists and makes you feel like drinkin' the kaiser's blood? If the draft board was to ever ketch me in one of them fierce moods they'd have to tie a chain to my leg to keep me from swimmin' across to join the boys in the trenches. I git positively dangerous at 'them times. I'm glad I don't belong to Rev Markley's church; one or two of then kind of sermons is enough to make soldiers of his hull congregation.

After he got thru Judge S. Harrison White of the state supreme court give us some of the legal side of the war. Accordin' to the judge, the kaiser has broke so many international laws that he ought to be in the penitentiary fur life, even if he never done nuthin' else. After the war, the judge sez, we're goin' to have a League of Nations which ex-President Taft is now promotin'. Each big nation will have a small army and navy which will be a kind of a international police force, to keep the little nations outen trouble. Just who'll lick the big nations when they need it he didn't explain.

The judge sez it's funny that man as a individual has evoluted and evoluted till he's polished and civilized to the highest extent, but nations is still as fur behind in settlin' their quarrels as they was two or three thousand years ago—one of 'em at least is worse than any nation was 3,000 years ago. I reckon the trouble is that man hain't evoluted as much as the judge thinks he has. His head may be o. k., but down in his heart he still hates his brother. If he didn't we couldn't have no war, because a nation is as good as the people that compose it and no better.

Prof. Emslie had his chorus of young men and women to sing us some patriotic songs and he kind-a roasted us because we didn't know the words of the Star-Spangled Banner. Well, maybe we ought to be roasted, but as fur me it ain't the words that bothers me as much as the tune. I don't claim to be much of a singer, but I kin git away fine as fur as "Oh say kin you see by the downsurlylite," but when it comes to the "rockies red glare and the gas bombs in air," why the music gits right up in the rafters of my neck and I begin to splutter like a flooded carburetor. Sometimes I nearly bust myself tryin' to sing them high notes.

Well, the next evenin' we had some more patriotic doin's at the rural life banquet. Like usual, the grub was Hooverized. It's gittin' so now they hain't no perticular advantage in attendin' a banquet. As fur as the grub is concerned we might as well eat at home. We rushed thru the grub, sung "Over There" several times and done our best, in our poor, feeble way, to help win the war. After the vittles was cleared off we had some more speech-makin'. I noticed that the banquet speeches is gittin' better right along and I reckon it's due to food conservation.

Senator Agnes Riddle was one of the speakers. She give us another of them ripsnorters—not so flowery like Rev. Markley's, but straight from the chest. She told us she come from the old country. She's a naturalized German and when she talks about the kaiser she hain't givin' us hearsay. The man ain't born that she's afraid of, and believe me, friends, Farmer Putnam is goin' to agree with that lady senator every chance he gits. I don't want no argymint with her. I've had lots of experience in that line with Josephine. Wimmin has got more moral courage then men as a rule anyhow, and when a woman like Senator Riddle starts anything you might as well begin to bail out the boat if you cain't swim. A lawyer by the name of Tom Herrington found that out up to Collins.

THOMAS JEFFERSON PUTNAM.

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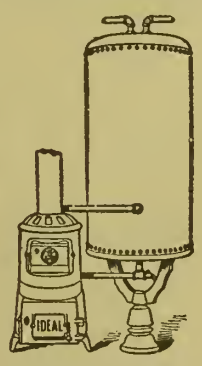

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U. S. Buys Farm Loan Bonds

Congress has approved the recommendation of the Federal Farm Loan board and directed the United States Treasury to invest in $100,000,000 worth of farm loan bonds during 1918 and in a similar sum in 1919.

The reason for this was brot out in the first annual report of the board, calling attention to the withdrawal of all foreign capital from investments in farm mortgages, as well as similar restriction of domestic investments, due to turning the money into the financial channels of the war. The bonds bought by the treasury are to be re-sold to investors as the demand from farmers for additional loans develops.

Other interesting features brot out in the annual report are as follows:

That the co-operative farm loan association, or borrowing group, provided under the Federal Farm Loan act, be given another year of trial before any consideration be given to amending the act to make the method of borrowing more direct;

That the maximum loan limit permitted to the individual borrower be increased from $10,000 to $25,000;

That the denominations of farm loan bonds be changed from $25 to $20 and from $50 to $40 to eliminate the fractional cent in the computation of semi-annual interest;

That the provision enabling a borrower to pay all or any part of his indebtedness after it has run five years, in multiples of $25, be amended to enable him to pay all or any number of annual amortization payments on any interest paying date. These mortgages are retired by fixed annual payments and limiting advance payments on indebtedness to the size of these fixed annual amortization installments would eliminate bookkeeping;

That the provisions governing Joint Stock Land banks be amended to allow such banks to operate in more than two states; to increase their limit of bond issues to twenty times their capital stock instead of fifteen, and to raise the authorized rate of interest from 6 to 6½ per cent. This is not to be confused with the authorized maximum rate of 6 per cent allowed the Federal Land banks.

A most interesting feature of the annual report is the discussion of the co-operative National Farm Loan associations and the acceptance of the principle of co-operative borrowing by the American farmer. It is pointed out that up to December 1, 1917, 1,839 of these co-operative associations had been chartered by the Federal Farm Loan board; applications had been filed for $219,750,740 of loans; the twelve Federal Land banks had approved loans amounting to $105,136,529. and loans had been actually paid out to farmers amounting to $29,824,655 In addition to the 1,839 associations actually chartered 1,985 such associations were in process of organization, getting ready to be chartered.

The obstacle pointed out in the co-operative association is not any failure on the part of the farmer to participate in this first nation-wide effort at agricultural co-operation in America, but rather one of efficient administration. The board raises the question of whether or not the advantages of co-operation, as thus provided, outweigh the disadvantages of greater delay in the time of closing loans resultant from co-operative group action. The report says:

"It is impossible for this board to express, at this time, any unanimous and well-considered opinion on these subjects. The matter is alluded to only for the purpose of calling it to the attention of the Congress, in view of the possibility that a year hence the board may feel called upon to make some definite recommendation for such an amendment of section 15 as would permit prospective borrowers to resort to the method of individual contract rather than to the co-operative method."

Why They Build Silos

Twenty-five tons an acre has been by no means uncommon for silage production in the irrigated districts of northern Colorado in the last two seasons. Sam Crowley, on the Letford ranch near Milliken, did better than that. He made 100 tons of first-class corn silage from four acres and in addition sold four and a half tons to a neighbor. James Flood, in the same district, put up 100 tons of corn silage in 1916 from five acres.

In the neighborhood of Berthoud, in Larimer county, a farmer sold out in the fall to go to California. He got $15 a ton for corn silage that cost him not over $5 a ton to grow and put up. These are some of the reasons for the rapidity with which silos are being built in the irrigated sections of the state.

A Cautious Owner

A Pennsylvania farmer was the owner of a good Alderney cow. A stranger, having admired the animal asked the farmer: "What will you take for your cow?"

The farmer scratched his head for a moment and then said: "Look-a here, be you the tax assessor or has she been killed by the railroad?"

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Talk on Bee Keeping

One of the most interesting speakers at the Colorado Farmers' and Farm Women's Congress was Dr. C. E. Bartholomew, a bee expert from the U. S. Department of Agriculture, whose talk is summarized as follows:

Bee keeping is older than any other branch of agriculture. Before our ancestors knew how to stir the ground and plant the seed they kept bees. Savage tribes today are found with basket-woven or clay hives in which they keep their bees. But people today know less about bee keeping than they did centuries ago. It is a neglected calling. Our fruit orchards would not produce without the bee and our leguminous plants would not bear seed if it were not for the bee.

Our honey supply is usually exhausted by the holidays; we do not produce enough to make honey an all-year-round commodity.

There has been more nature faking about the honey bee than any other animal. The bee is one of the laziest of all the animals as an individual, but the collective efforts of the colony are what we see. The bee usually makes only one trip a day into the field to gather nectar, and it takes from 12,000 to 20,000 trips to make one pound of honey. As there are anywhere from 60,000 to 100,000 bees in a colony, one trip by each bee will make 8 or 9 pounds of honey. It's the busy colony we see and not a busy individual bee.

Dr. Bartholomew said that the farmer who kept a few neglected colonies was not helping his community, but hindering, because such colonies often become a source of infection that spreads abroad in the neighborhood.

We speak of honey as a substitute for sugar, but it's the other way; sugar is a cheap substitute for honey, the latter having been used since the dawn of civilization, while sugar was discovered only 400 years ago. The speaker urged a greater use of honey, the best of all energy-producing foods

If we were to produce one hundred times as much honey in the United States as we now do, its retail value would increase 100 per cent, because honey would become an all-year-round staple.

The speaker said he recalled when he, as a boy, took in butter at the country store for which the farmer got 10 or 11 cents a pound. When greater production of butter was first agitated, he said, many farmers opposed it because they said: "Butter brings us little enough now. If we produce more the price will go lower still."

The result proved just the opposite; greater production of butter and its storage resulting in establishing it as a staple product on every table at every meal. The bee keeper should heed the lesson and not be afraid of increasing his output.

The annual meeting of the Colorado State Beekeepers' Association was held in connection with the Farmers' Congress, Dr. Bartholomew being the principal speaker, his topics including marketing questions and wintering of bees. Miss Mabel Verne Campbell, home demonstration agent for the city of Denver, Wesley Foster of Boulder, A. A. Lyons, Fort Collins, and Charles Adams of Greeley, were other speakers. Officers were elected as follows: W. P. Collins, Boulder, president; J. N. Pease, Littleton, vice-president; Wesley Foster, secretary-treasurer.

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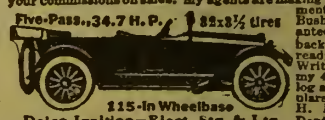

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A Tribute to the Light Draft

The light draft American Percheron is proving the war horse par excellence on the western front in France. Under the title "Our Real War Horse" there was published recently in Country Life of London an article of absorbing interest, taking the American imports as they arrive at the dock, thru a brief period of fitting for service, until they are delivered at the front for actual war work. One statement particularly significant to our western horse breeders is that the American grades fill the requirements so perfectly because they are range bred. To quote from the article:

"The point to bear in mind is that, tho America has sent us chargers, troop horses and cobs that country must always be gratefully remembered for the light draft. He is the horse which has come in numbers quite out of proportion to other classes. He is the horse most typical of the millions of imports. Hardiness, placidity of temper, strength combined with activity, virility of constitution with what is called 'good heart,' versatility and extraordinary activity for his size and weight—these are characteristics that have impressed themselves for all time on all who have had to do with him."

We also quote from the conclusion of the article the following:

To see him as one of a team of gun horses is to enjoy a delightful spectacle. He is active, willing, under instant command, and he is imposing. Ask any officer of field artillery and, where the lighter kind of horses with galloping conformation are concerned, any officer of horse artillery; they will, I am sure, give him an excellent "chit." Ask them which type of horse has best withstood the rigors and exhausting exposure of active service in Flanders, and they will unhesitatingly declare in favor of our friend from America. The Shire horse has succumbed while the half-bred Percherons have still been resisting mud, wind, rain, gruelling hard work and pneumonia. What we should have done without them, goodness knows. And the extraordinary thing is that in the fourth year of war America can still supply them and that the quality is as good as ever. Certainly it is just as well that this should be so, since it is quite certain that no European country could have maintained its armies for a three years' war except by purchase abroad. The mystery is how America came to have so many horses available, why so many were bred for no apparent market except a possible European war, and how they were broken and utilized over there. Those are points, however, which do not rightly come within the purview of this article.

Apart from questions of conformation, weight and temperament, the real test of the war horse must be one of endurance, of the capacity to resist exposure and hardship, to survive longest the trying conditions imposed by picketing on mud and in the open behind the fighting lines. It is the crucial test, and the horse which has answered it best is the American light draft. There is nothing in extenuation to be said for other draft horses after that. The "Yank" has beaten them all. It is reasonable to infer from this that while the transition of the stable-kept English horse to the mud and exposure of France is an impossible one, the same thing, where the American is concerned, is made possible by reason of the conditions under which the latter has been bred and reared on the "runs" of the United States and Canada.

Buy Spraying Materials Now

Timely and careful spraying of fruit and truck crops will be of greater importance this year than ever before in the history of horticulture. Spraying will be important both from the viewpoint of economical use of materials and from the viewpoint of greatest profitable crop production. Prevailing high prices and limited supply together with the congested conditions of freight traffic make the situation trebly serious. This year in particular it will evidently be good business to buy early, and the importance of immediate action cannot be too strongly emphasized.

Organized action is necessary on the part of users of arsenicals and other spraying materials. Delay until the spraying season is on, will more than likely result in failure to obtain the needed supply. Retail quotations on arsenicals are now ranging from 50 to 100 per cent above last year's prices.

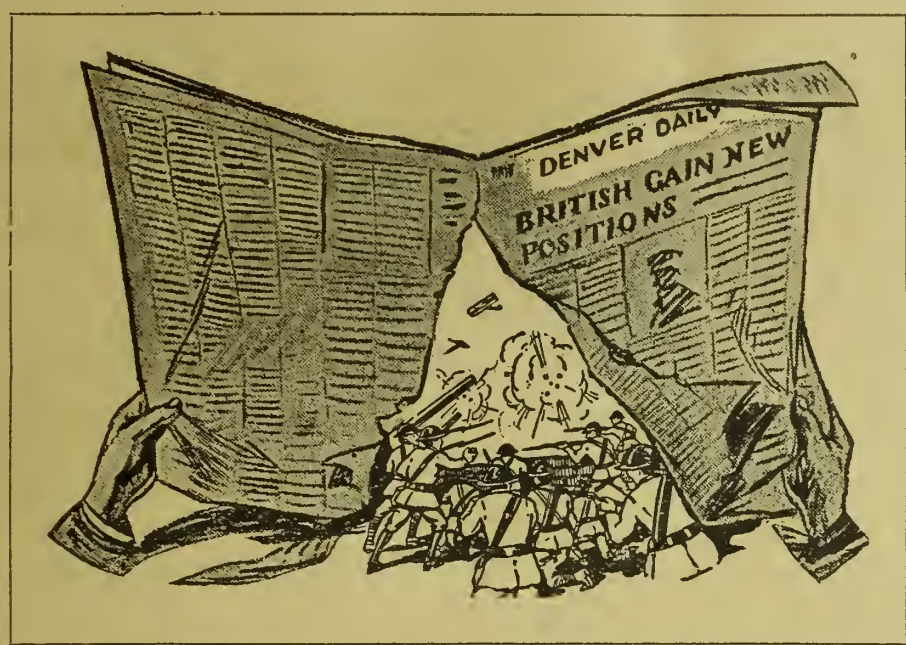
Government control of the price and distribution of certain or all spraying materials is possible and may be necessary to insure the supply. The output of arsenic, in particular, is limited and precaution must necessarily be exercised in the utilization of the available supply.—F. W. Faurot, Missouri College of Agriculture.

About the hardest blow that most of us get is a light touch from our friends.

The Story of the World War

Read It Month by Month as Told in the Two Best Magazines

Do you realize that you are today living in the time of the greatest war known to mankind? A time when the whole world is listening to the crash and boom of canons. Europe alone has expended $107,500,000,000. Over 26,100,000 men have been lost in killed, wounded and prisoners. Our own boys will soon be taking an active part in the fighting—perhaps 2,000,000 of them—before the year is over. Are you providing yourself and your family with reliable and authentic reading matter that will enable you to keep in close touch with every move of the world's greatest catastrophe? You should; it is a duty that you owe yourself, your family and your country.



Look Behind the Newspapers

Every week or day, your newspaper brings you a new page of rumors, reports and opinions. Which are true? What is really happening? Look behind the newspapers — see the reality.

Outside of the real value to yourself in being well informed on all things in connection with the World War, you will find much personal satisfaction in knowing that you and your family can converse intelligently with your neighbors and your friends in town on all current events, both war and otherwise. "That family is well read," is a remark that can easily be merited by any good, intelligent family if just a little care is taken in the selection of their reading matter. Among all the many magazines published, there are two that stand out prominently as magazines for home reading. They are the "Review of Reviews" and the "World's Work." There are no better; they are instructive and at the same time as entertaining as fiction. The regular subscription price of each of these magazines is $3.00 per year or the two at the cost of $6.00 for the year. Thru a very advantageous clubbing arrangement, we are enabled to offer them in connection with Western Farm Life at a nice saving in cost to you.

THE REVIEW OF REVIEWS

Out of the whole world of muddle today, the Review of Reviews brings the big real features and presents them to you. England and France as well as America, read one American writer on the War. That writer is Frank H. Simonds, who each month in the Review of Reviews discusses the War for the proceeding month so vividly that it is as if you were on the battle front yourself. You need the Review of Reviews for the coming year on account of its many special articles. You need it for Dr. Albert Shaw's editorials—nearly fifty each month—and its hundreds of cartoons and pictures. The Review of Reviews is the clearing house of the World news. It is filled with as entertaining and absorbing reading matter as a good story book, but in its reading you will absorb all of the important current events that are so necessary for those who wish to keep up with the times.

THE WORLD'S WORK

It is a magazine that is more than a review of current events; it is an interpreter of history as it is being made—tells why things happen; gets at the big fundamental idea behind the news. The work of the World just now is the fight for Democracy, and while the World's Work magazine will not be given over to a discussion of the war, the subject will be adequately treated in each issue.

The Review of Reviews and the World's Work are both issued monthly; one you will receive thru the mail about the first of the month, and the other the middle of the month, thus supplying you in your home with the very latest information.

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Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Breeding the Invisible

ARTICLE VIII.

When a man buys his cows from other herds, he stakes his judgment on the individuality of the animal as it appears to him. Individuality is not to be overlooked, but it is by no means the whole of a breeding proposition. Vigor, fecundity, and milking power are qualities not reducible to a point of form; but a dairyman may make or break, as he realizes or disregards their value. Vigor, in my opinion, is associated with a big, robust body. I know such a statement will not be accepted by everyone, but I am surely convinced that a big animal of any breed is the one that will return the greatest profit in the long run. I do not mean to say that you will not find wonderful producers that are small in type and very refined in appearance. It is said of the American trotter that they trot in all shapes and colors. It is just as true of the dairy cow that they produce in all shapes and colors; yet just as surely as the breeders who are responsible for the type of a breed, begin to seek ultra-refinement and extreme quality, that breed loses in considerable measure its value for the producer of milk or meat. Quality and robust health seem to be somewhat antagonistic. We must have a measure of both, and because they are antagonistic, we must sacrifice something of one in order to secure a necessary measure of the other; but if we forget the necessary balance in an effort to secure the extreme of one or these characters, we lose the other to a point that is serious. Show ring standards set the pace for type quite largely, and the tendency of all show rings is to emphasize smoothness, beauty, and uniformity, because these attributes aid in making a good show and a good impression for the breed. The result, until recent years, at least, has been a sacrifice of size and vigor, to quality and beauty. No breeder, and especially no commercial breeder, can afford to sacrifice the vigor of his herd. It is one of the chief items in the success of any dairyman's business, his health, and ability of the herd to do well.

A herd which lacks constitution and which is the prey of one disease after another, such as pleurisy, pneumonia, indigestion, weak calves, and so on, is a herd that is not profitable. There is a vast difference in the resisting ability of individual animals, and this resisting power is something which can be bred into the race. It never can be done by retaining weak individuals as breeders in the herd.

In selecting heifers from one's own herd, the owner knows what the ancestors of the heifer have done in the way of giving return for feed, maintaining their health and fecundity; and this is only another argument for the use of a good sire so that the herd may be built up rapidly from the progeny of the herd, instead of having to be built up by purchases from the outside. Fecundity, or regular production of offspring, is another one of the important points which a buyer of grade heifers rarely gets information on when purchasing. The cow that is dry several months more during the year than she ought to be because of difficulty in breeding, is the cow that helps pull down the average of the herd.

As I look back over our herd records for a period of ten years, records covering over a dozen breeds of live stock, the profitable animals are the ones that have produced offspring regularly every year. More than once I have been tempted to keep in our herds an animal which was a good individual and produced progeny that had good individuality, but who was not a regular breeder; and in every case it has been a losing proposition. In most cases, two pretty good calves in two years are worth a good deal more than one extra good calf in two years. Certainly that is true where milk production is the chief means of income. Inherent milking power, possibly, is not to be classed with vigor and fecundity in just the same way as I have treated these two qualities, because milking power has more external indications than vigor or fecundity; and yet when all is said and done. while we know that on the whole a cow with certain details of form, such as large, good quality udder, great capacity for feed, good constitution, refined withers, and permanent hips, and so on, is a better producer than the cow lacking these details of form; nevertheless, of two cows looking very much alike, possessing different blood lines, one may have the inherent power of producing an enormous amount of milk; and the other may be a mediocre individual. The internal power, whatever it may be—nervous organization, or the protection of some reserve material for the time when the cow comes fresh—what it is, we do not know; but we do know that it is inherent and you can breed for it just as surely as you can breed for any external point of form. Of course, the only way we can breed for it is by breeding from cows with large records, and from bulls whose dams have had large records; and I believe most thoroly in breeding according to record, but I want other things with the record breeding that go to make up a long-lived race, and a race that will go on year after year with great regularity of production and reproduction. The man who is going to stay in the dairy business in the future, will be the one who builds for the future of his herd, and not just for today's profit on the milk check.—G. E. Morton.

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Why the Dairy Cow Pays

Geo. La Grange

We once had a milk man, I will not say a dairyman, tell us he could not afford to raise his heifer calves because he could buy his cows at a lesser cost than it took to raise them. We always doubted this statement and have watched the operations of this man closely to see how he would succeed. He did not succeed, or at least, he is now out of the running.

It has always been our idea that the dairyman growing the heifers from his herd for his own use or for sale as dairy and breeding stock would find a remunerative income from this source, but it must be carefully watched. The success or failure in this line depends very largely upon the sire used. There has been many a good herd built up by using but one or a few purebred cows at the start. James L. Cooper of Nashville, Tennessee, is known as "One Cow Cooper" all over the United States where high class registered Jerseys are known. He started with one cow and has raised nearly a thousand of her descendents.

It is hard to find, for sale, a truly good dairy cow, and when you find one her owner rightly values her very highly and she will cost you a very neat sum. It is very much more satisfactory to raise your own cows. Of course, you must necessarily buy some at the start. The more you have with which to start the quicker will your whole herd be high class registered stock. But your greatest satisfaction will come from the use of cows of your own breeding and rearing and developing. They should be your best cows. In Colorado there will always be a market for all the good dairy cows that can be bred and reared in the state, just as there will always be a profitable market for the dairy products.

The demand for good, prepotent dairy sires is ever increasing and there is little chance that the supply will anywhere near equal the demand in the life time of any of us who are now in the business. In fact, the greater the number using purebred dairy stock the greater will be the demand for breeding bulls. They are and will be raised at a much greater profit than steers can be raised and sold for beef purposes. In the dairy animal you can "eat your pudding and still have it," whereas in the beef proposition "when you eat your pudding it is gone." It has been clearly demonstrated that in building up our soil and increasing the fertility and crop production of our land, there is no system equal to that of dairying; it does it faster and more profitably than the growing of beef cattle. Yet there is in Colorado room for both to be handled with profit, both for the rancher and for his ranch. It will always be so.

We have handled practically all kinds of stock and have always found the Jersey the most economical market for our feed, the most responsive to good handling and care, and to adapt herself to her surroundings better and quicker than any other class of stock. It has been amply proven by competitive tests carried on under the supervision of the federal government at the great Chicago and St. Louis world's fairs that the Jersey cow is "the most economical producer of dairy products of whatever nature." It was shown that on every pound of butter produced the Jersey made 26 per cent more profit than did the Holsteins, and 49 per cent more than the Shorthorns. However, the question of breed is a wide one and every man can safely go into dairying with any of the standard dairy breeds and hope for complete success from a financial standpoint.

The dairy breeds have all been improved by careful handling of many master breeders, until today we have the most remarkable dairy machines the world has seen, and they are being constantly improved, new records being made, and the dairy business is but in its infancy. Let every dairy breeder stick to the dairy breed he personally prefers, use the best and most prepotent sires he can, and do his best to succeed in dairying and to further the dairy business of Colorado. For by so doing he will benefit himself and the state and every person in the state.

We are away ahead of either Denmark or Wisconsin in natural dairy advantages, yet these two sections are—by the use of good sires and energetic, systematic, practical adoption of scientific dairy farming—the models of the dairy world today. What they have done, we can do, and can do even better, as we have many natural advantages they do not have. Dairying is the greatest department of agriculture, which is the foundation of the business world.

Squirrels aren't the only animals that are laying by a store of nuts this fall. We know many patriotic farm boys who are going to eat them this winter instead of candy.

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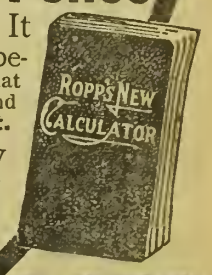

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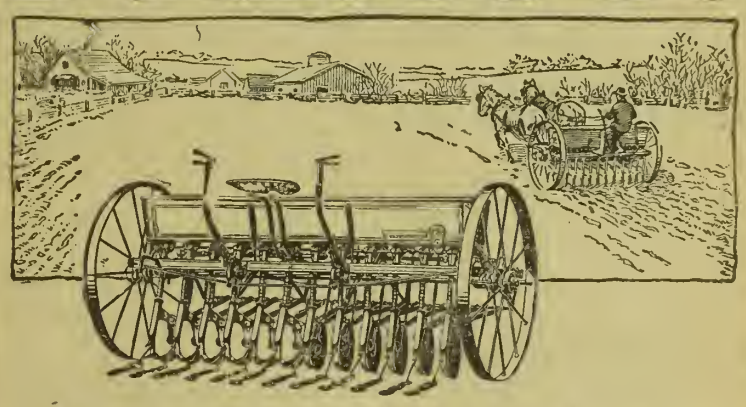

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If you are growing small grain, and are not using an **Empire Jr., Hoosier,** or **Kentucky** drill for planting, you are losing money and the world is losing grain. Buy the right drill to plant your crops this spring. Buy from your local dealer who has in stock, or can get for you, the best drill for you to use on your soil.

The dealer will show you all about feeds, furrow openers, bearings, attachments, the regulation of quantities, and all the other things you will want to know. Talk this over with him or write to us, and we will send you complete information about the **Empire Jr., Hoosier,** or **Kentucky** drill that is best for you to buy.

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Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Regarding Homestead Laws

1. If a man files on a 640-acre grazing land homestead, does he have to live on the place?
2. If a ranch we own joins the grazing homestead, would we have to move to and live on the homestead?
3. We have bought 200 acres of land; can we now take 440 acres of grazing land and hold it without actually living on the homestead land, as all of this would be in one tract?
4. If a man files on a 160-acre dry land farm is he required to live on it?
5. What acreage must he cultivate each year and what improvements must he make on such a claim?
6. Can a married woman take up a dry land farm?—A. A. M., Idaho.

With respect to Questions 1, 2 and 3. I have to advise that the 640-acre stock-raising homestead law requires residence by the entryman on the land entered. No one who owns more than 160 acres of land in the United States is qualified to make a homestead entry, under either the 640-acre grazing law or the general homestead laws.

Questions 4 and 6. Section 6 of the Act of June 17, 1910 (36 Stat., 531) provides that a homestead entry of not to exceed 320 acres of arid, non-mineral, non-irrigable, unreserved public lands may be made in the state of Idaho without residence on the land entered, but—

> "The entryman shall reside not more than 20 miles from the land, and be engaged personally in preparing the soil for seed, seeding, cultivating and harvesting crops upon the land," etc.

During the second year of the entry at least one-eighth of the area must be cultivated, and during the third, fourth and fifth years, and until submission of final proof, one-fourth of the area entered must be cultivated. No special requirements are made as to fencing or other improvements.

5. A married woman is not qualified to make a homestead entry unless she has been deserted by her husband, or is really the head of the family because her husband is incapacitated by disease or otherwise from supporting his family or is confined in a penitentiary.

For copies of the homestead laws and regulations, your correspondent should write to the Commissioner of the General Land Office, Washington, D. C., or to any district United States Land Office. The land offices in Idaho are located at Blackfoot, Boise, Coeur d'Alene, Hailey and Lewiston.—M. D. McEntry, Chief Denver Field Division, U. S. General Land Office.

Taking Up Stray Animals

I turned an old horse of my son's into my pasture. He got out, and started back to his old home, 40 miles from here. We inquired about him, but never heard anything until last week I was told that he was to be sold for pasture hill. He left in June and I know that if he had been let alone, he would have gone straight to his old home. This man who has him wants $15 for pasturing this horse.

1. What right did this man have to take this horse and pasture him? That country isn't so thickly settled that the horse could not rustle if let alone.
2. Can he charge me $15 under such circumstances? He hasn't had the horse for more than six months.
3. If this man can collect $15 from me, please tell me what good is this free range?—R. M. M., Matheson, Colo.

The state law defines as estray any animal whose owner is unknown in the section where the animal is found, or if the animal shall be fifty miles or more from the limits of its usual range or pasture. Any person taking up such estray animal must, within five days after doing so, send a written description of the animal to the Secretary of the State Board of Stock Inspection at Denver. This board is required to properly advertise the animal and if the owner is not located, authorize its sale. Out of the proceeds of the sale the party taking up the animal is reimbursed for its care. However, if the owner is found and there is a dispute as to the charges of the taker-up said dispute must be referred to the State Board of Stock Inspection for settlement. No one has any right to take up an animal without notifying this board, and if the party taking up your horse failed to give such notice he is liable to a fine. We would advise you to take up the matter with R. McCrillis, Secretary State Board Stock Inspection, Denver. He will know whether the party gave proper notice of taking up the horse and he will be able to advise you, also, concerning the proper charge that can be made for the keep of the animal, providing the party taking it up has proceeded according to law.

Heifer Has Lice

I have a yearling heifer that has sores on her sides just below the hips. The hair is all off and it looks scurfy around the sores. I washed it with peroxide and then applied tar to it. I looked all over her and found little bugs resembling fleas just almost buried in the flesh. Please tell me how I can get rid of them and if they are the cause of the other trouble.—J. D. D., Morgan County, Colo.

The heifer is evidently affected with lice. Get a coal-tar mixture at the drug store and follow directions. For a few animals and where a vat is not available, the following mixture is very convenient and effective: Oil of tar, 1 pint; carbolic acid, 3 ounces; lard oil, 1 gallon. Add enough sulphur to make it of the proper consistency to rub well with a brush. Go all over the cow with this mixture, rubbing it in well against the hair with a stiff brush. This had better be done on a warm day, and the cow should be blanketed to prevent chilling.—Dr. Geo. H. Glover, Veterinary Department, Colorado Agricultural College.

Can Change the Lateral

A and B own five acres each adjoining. There is a sub-lateral thru their land, carrying water to irrigate C's land, which was put thru prior to their ownership and at a time when the land now in the hands of A and B was not being worked. This lateral was put thru in such a manner as to cause a strip of waste land of from one foot wide at the place of taking the water from the main lateral to 70 feet wide at the place of leaving A and B's land. Can A and B change the lateral on their own land so as to redeem this strip without being liable, as long as C's water will go thru the new lateral?—Granger, Arapahoe County, Colo.

I see no objection to reclaiming this land, and in my opinion you may do so.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver.

How About an Ice Pond?

Ice, now considered more of a necessity than a luxury to the economic production of dairy and other farm products, may frequently be had at moderate expense by the average farmer. A low place on the farm, sometimes unfit for cultivation, if but 40 feet square, may be used to excellent advantage as a pond for ice. It is not necessary to excavate more than two feet deep. When dug, the pond may be puddled by herding a drove of cattle, sheeps, or hogs in it. When properly puddled, there need be little fear that the water will seep away. It is estimated by the agricultural engineering department of the Nebraska College of Agriculture that a pond 45 feet in diameter will supply twice as much ice as the average farmer will require.

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The Meat Situation Is Critical

PRODUCERS WILL BE GIVEN NO RELIEF

At the annual convention of the American National Livestock Association, held in Salt Lake City the middle of January, questions of meat production and the effect of cutting the consumption of red meats, especially beef and mutton, were discussed at length. Regarding pork the opinion is practically unanimous that the American people should continue to observe porkless days, but up to the present time the effect of cutting the consumption of beef and mutton has been disastrous in the mountain states. Western producers of fat lambs and finished beef are facing heavy loss because of the depressing effect of decreased consumption in all domestic markets, and the fact that, so far, there has been no foreign outlet for beef and there is no prospect at any time for a foreign outlet for lamb.

At the close of the Salt Lake convention Joseph P. Cotton, head of the meat division of the Food Administration, issued a statement in which he said that meatless days would be continued, except only in the Pacific Coast states, where the ban on beef and mutton has been lifted for 60 days. Colorado producers are asking the same action in this state. Mr. Cotton's statement regarding the beef situation was, in part, as follows:

There has been recently a decline in the price of the highest grade of cattle. Some farmers who, last summer and fall, paid very high prices for feeder cattle to fatten will lose money. The Meat Division is powerless to increase the demand for the most expensive grade of beef. Such beef is a luxury. War economy naturally lessens the demand for it. The meatless day has comparatively little to do with the matter. On the other hand, the orders from the Allied nations for beef of average quality are such that the Meat Division expects no decline in the present prices of cattle of medium grades, which constitute the great bulk of the supply. It will be its policy to hold prices of such cattle steady, as far as it has power to do so. A decline in those prices would tend to lessen essential production. Farmers will find half-fed and short-fed cattle more profitable than those fed to produce the heaviest weight and highest quality. However, it is not likely that further decline will take place in the price of even the highest grade cattle.

It is more necessary than ever, both to increase the production of livestock and to conserve meat. This is particularly true of hogs and hog products. Conditions in the Allied countries make it essential for this country to send them much more meat, especially pork, than ever before. There is a very real possibility of general shortage within a few months. The meatless days must, therefore, be continued.

Drouth on the Pacific Coast has made it necessary to kill off an abnormal number of cattle there during the next few weeks. It is impracticable, owing to transportation conditions to take all the temporary surplus in that section for export. For this reason, and no other, the free use of beef and mutton on Tuesday will, for sixty days only, be permitted in Pacific Coast states.

The Meat Division, thru its control of foreign buying of pork products, has been able to prevent live hogs from falling below the price of $15.50 per cwt., referred to in its statement of November 3rd. That this price was considered satisfactory by most farmers is shown by the very large number of feeder pigs that have been bought by farmers to fatten since that statement was issued. Hogs are coming to market of heavier weight than usual, showing the beneficial effect of that policy in adding to the quantity of pork available.

The producer's side of the beef question was stated by President I. T Pryor, in his annual address from which the following is quoted:

One of the first acts of the Food Administration was to inaugurate meatless days. This action was predicated upon the fear—supported by the statistics then obtainable—that this country might not have enough meat food products fully to supply the needs of our allies and for domestic consumption. The situation has materially changed since then. The number of cattle and sheep on feed, and the prospects for the future, seem to warrant the resumption of a more nearly normal dietary on beef, veal, mutton and lamb. The emergency as to those kinds of livestock has passed. This country has never exported any mutton or lamb, and comparatively few beef products in recent years; hog products representing more than three-fourths of the total of our meat exports at present. A greater domestic consumption of beef and mutton products would mean a larger surplus of pork products for our army and for the Allies. This is what is needed. We have, therefore, asked the Food Administration to confine meatless days to pork products.

A. E. DeRicqles, president of the American Livestock and Loan company of Denver, spoke on "A Livestock Policy for Washington." Following are some of the suggestions he offered:

At the risk of making myself unpopular with some of those in authority, I wish to state as my opinion that the meatless day that includes beef and mutton is one of the features that will rebound to our disadvantage. As regards mutton, I am reliably informed that very little of it is exported; also that the government does not buy mutton for the troops. If I am correct, why should mutton be included in the meatless day? For I understand the Food Administration has accepted the judgment of the wool growers that to stay in business and meet their obligations and not overstock their grass, sheep men must have something to sell, and that it is economical to eat lamb rather than mutton. However, we find an embargo on the eating of mutton once a week and we also find lamb feeders of Colorado—which state is one of the great mutton suppliers of the nation—facing an enormous loss in their present operations, which will certainly reduce the supply when we need it.

As regards beef: The price of cattle has gone down so much that corn belt feeders are facing a loss, and with the decreased supply of store cattle we will find it difficult to get feeders in the business again. The Department of Agriculture reports for 297 storage plants, amount of frozen beef on hand December 1, 1917, an increase of 57.1 per cent compared with same date 1916. Why should an embargo exist at this time, with the quantity reaching the market that we see reported, especially if it is a fact, as stated in Bulletin No. 10 from the Food Administration, that we will not export more than about 5 per cent of our total production? Possibly a better plan would be to put an embargo on pork for two or three days in the week, and for the present leave beef and mutton free. These opinions are based on a study of the best information obtainable. If we are wrong the correct information should be immediately published.

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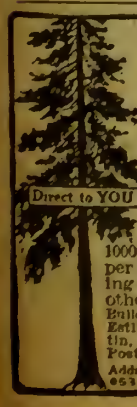
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the farmer MUST save time and effort, not only in producing, but in hauling. The larger the load and the faster the trip to market, the greater the profit.

Good roads have always helped the farmer. Now they are indispensable. Farm labor is scarce. Wages are high. Every hour wasted on the highway cuts down output and eats a hole in profits.

What the farmer needs is not a patch of hard road here and there, but a connected system of hard roads putting him in easy reach of his markets. And to get the best prices he needs **roads that stay good 365 days a year.**

There is no reason why farming communities should not have perfect systems of permanent highways. It is entirely up to them. The roads can be built in two or three seasons. When the cost is spread over fifteen or twenty years the annual tax for both interest and principal is only a few cents per acre. In Vermilion County, Illinois, for example, a magnificent concrete system is being built and the annual tax is only about 8c per acre per year, for 20 years, which covers the interest and gradually pays off the debt.

The farmer should act now in getting road plans under way to further his own interests. Systems of permanent highways benefit everyone, but to the farmer they are *indispensable.*

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This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died.—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

We Will Help Win the War: Gathered from all counties of Colorado were the women of the ninth session of the Farmers and Farm Women's Congress, held at Fort Collins during the week January 14th to 19th.

Expressive of the deep patriotism that pervades our rural communities, the programs of the women's sessions were given over largely to the consideration of food conservation measures possible and desirable in home practice.

Thru the extension service of the college co-operating with the rural communities, the women have heard and heeded the stirring appeals from neutral countries, as well as from the allied nations facing the perils of a critical food situation and have fully realized that our duty is wider than war.

"It is as wide as humanity," said Miss Inga M. K. Allison, head of the Home Economics Department at the college. Miss Allison's cordial reception to the women from over the state, together with the good work of her able assistants, has given to those so fortunate as to attend the meetings of the congress a great service—a service to be fully realized only as we continue to face the crises and together work out our many problems in home and community. Getting behind our splendid resolutions and pledges in our desire to aid the Food Administration in a consistent, wise and loyal way, we are glad to spare from the family table the most concentrated nutrients—and those requiring least shipping space—and just so far as we continue to do this do we demonstrate our patriotism.

Miss Allison and her co-workers felt with the women delegates the great need of knowing how to meet such self-imposed patriotic action and therefore no effort was spared in culinary demonstrations and in talks and discussions at the women's sessions of the congress; and the one central thot ran thru each day's program—that of mutual and loyal helpfulness.

We of Western Farm Life were constantly thinking how we could best serve those not able to enjoy this free co-operation and free discussion and the following is a brief outline of what took place on Tuesday, the first day of the congress at the women's session:

The demonstration meetings were held in the cooking laboratory and we observed the cooking processes conducted by an expert along the special lines presented.

A leaflet prepared by Louise F. Lacey of the Home Economics department on the "Use of Wheat Saving Cereals" was distributed among the women. The contents of this leaflet are most practical and the splendid presentation and clear demonstrations of the author were appreciated by each one present. We shall try to give a review of much of this particular demonstration and shall continue to give to our readers such helpful recipes and suggestions from the work as space will permit. It is a splendid opportunity, we think, to let our readers know of the extension service at the college, and of the department of Home Economics that is ever working to provide the most reliable material for our extension workers; in other words, we would do all we can thru these columns to connect our readers up with the source of supply and help so much desired.

At the top of the leaflet we read:

"We hold it in our power, and ours alone, to keep the wolf from the door of the world."—Herbert Hoover.

Use grains that won't ship: Cornmeal, oatmeal, rye, milo. Save wheat that will ship.

War Breads

Peace Time Recipe:
- 1 cup water
- 1 teaspoon salt
- ¼ yeast cake, dry or compressed, softened in ¼ cup lukewarm water.
- 2 teaspoonfuls corn syrup
- 1 teaspoon shortening
- 3 cupfuls flour

To save wheat, use:
- ½ corn meal
- ⅓ rolled oats
- or
- ⅕ milo

in place of the same amount of bread flour

Directions: Boil water and pour in bowl over corn syrup. Cool and add softened yeast and 1½ cupfuls flour. Cover and stand in warm place over night. In the morning add salt, melted shortening, wheat substitute and remainder of flour. Knead, let rise to double bulk. Knead again, shape into loaf, and let rise again in the pan until bulk is again doubled. Bake 50 to 60 minutes.

Muffins

Peace Time Recipe:
- 1 cup flour
- 2 teaspoonfuls baking powder
- ¼ teaspoon salt
- ½ cup milk
- ½ egg
- 1 tablespoon shortening
- 1 tablespoon corn syrup

To save wheat, use:
- ½ bran
- ⅓ rolled oats
- ½ bread crumbs
- or
- ⅓ corn meal

in place of the same amount of flour

Directions: Sift and mix dry ingredients, add milk and egg slightly beaten, add corn syrup and melted shortening. Mix well. Bake in greased muffin tins 25 or 30 minutes.

Rye Cream Puffs: One cup water, 1 cup rye flour sifted before measuring, ¼ cup shortening, ½ teaspoon salt, 4 eggs.

Directions: Boil shortening, salt and water together. Sift in flour and cook, stirring constantly, until dough forms a good ball and leaves the sides of the pan. Remove from fire. Drop in eggs one at a time, beating constantly. Drop on a greased tin with a tablespoon and bake in a moderate oven 45 minutes. Fill with any custard or cream filling.

Maple Custard Filling for Cream Puffs: One cup milk, 1 cup maple syrup, 2 tablespoonfuls corn starch, 2 eggs.

Directions: Mix corn starch and milk, add the syrup, boil 5 minutes, stirring constantly, then cook over hot water 20 minutes, stirring occasionally. Pour over the slightly beaten eggs and return to hot water and cook 2 or 3 minutes.

Rye Pastry: 1½ cupfuls rye flour, ½ cup shortening, 1 teaspoon salt, water.

Directions: Sift dry ingredients together. Work in the shortening with tips of fingers or cut in with knives, using the scissors motion. Add water to make a soft dough, working as little as possible. Roll out on floured board. Bake in hot oven.

Potato Cake—A cereal-saving product for bread and cakes: Four eggs, 2 cupfuls sugar ½ cup shortening, 1 cup hot mashed potatoes, ½ cup milk (scant), 2 cupfuls flour 1 cup chopped nut meats, 3 teaspoonfuls baking powder, 2 ounces chocolate, 1 teaspoonful each of cinnamon and grated nutmeg, ½ teaspoonful cloves.

Combine as any butter cake. Bake in moderate oven about 40 minutes.

During the free discussion and exchange of the experiences of those present many helpful suggestions were given and each was made to feel the privilege of doing her part in this world struggle to win the war and hasten the time for better living and certain peace.

"We can't all die for our country, but we can diet."—Miss Haynes.

"The U. S. has sent her entire surplus of wheat to the Allies, so what

Turn to Page 18

"The Peace Offering"

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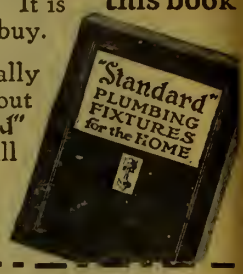

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Keep Good Cocks

I have about five dozen hens. How many roosters should I have, also how long should a rooster run with the same flock?—F. H. B., Keenesburg, Colo.

If your fowls are on free range, three male birds will be sufficient for the five dozen hens. Just as long as your bird shows good qualities, is vigorous and active, there is no good reason for changing. I have frequently kept cock birds three and four years with the same flock.

Renewing the "Blood"

Do you think it necessary to get cockerels unrelated to hens and pullets every year? I have a fine bunch of R. I. Reds and cockerels are very hard to get here. How many will I need for 125 hens and pullets?—V. L. A., Lincoln County, Colo.

Five years ago I started with a pen of five hens and one cockerel. Since that time I have introduced no new blood into the flock, and never had more vigorous stock than last year's young stuff; my last year's hens laid until the 15th of November, since which time my pullets have been laying regularly. By all means do not dispose of good stock for something whose value you are not sure of. Keep cock birds as long as they are active and healthy. With the number of pullets you are running, especially if they are on free range, you will not need to buy new cockerels as long as your stock is big-boned, healthy and vigorous. Five or six male birds will be enough to run with your flock of one hundred twenty-five hens. Always keep the scrappiest cockerels.

Disease in the Flock

What was wrong with my young cockerel? He was a good R. I. Red variety. I found him dead when I opened the coop January 1, 1918. I had not noticed anything that seemed very seriously wrong with him before, only that he seemed to be doing well. The day before he died he had symptoms of diarrhoea and comb was a dark color. I cut him open and found an extremely large liver 6½ inches in length and the other proportions were as much too large as the length; the gall was also very large in appearance. The liver is like a hog's lung after it has been left lay in air half a day. The cockerel was very poor altho the rest of the flock in general are fat. What would be the remedy or prevention of this disease? Is it contagious? What is the name of it? About a month ago I killed a young springer. It was good in flesh, really fat, saw nothing wrong with it except it was a runt in the flock, but had got to look nice. When I killed it, I found it had a thin bag of liquid around the heart just about the size of the crop. It had a hard lump of substance that looked like the yolk of an egg about the size of the heart. The heart was discolored from the fluid, which was watery yellow.—J. S. M., Utah.

There is no way of knowing from your description what ailed the cockerel you lost. From the symptoms, I would be inclined to think that both lice or mites were responsible for his emaciated condition. Generally, the condition of the liver such as you describe, is caused by heavy feeding, but not usually found in young fowls. As a general thing, when an individual fowl dies suddenly, there is no occasion for feeling alarmed, as fowls have as many physical troubles as human beings. Contagious diseases usually show in several fowls at about the same time where fowls linger along a certain length of time before dying. We would suggest that you furnish a dusting place for the fowls, so they can take care of body lice; also that you examine the roosts very carefully, especially where the roosts touch the walls or other supports, and see if mites are present. Should your fowls show evidence of having colds, use some disinfectant in the drinking water for a short time; just enough permanganate of potassium or copperas to color the water, is good. Careful attention should be given to cleanliness about the poultry house and plenty of house room for exercise during winter or cold weather, is of more value than remedies. We quit doctoring fowls many years ago and year by year have had less sickness in our fowls. We allow the weaklings to die and forget them as soon as possible, giving all our extra time to providing sanitary conditions.

Editor—And you say this joke is original with you?

Humorist—Certainly.

Editor—Well, you don't look it.

Humorist—Don't look what?

Editor—To be four hundred years old.

Here's a "cock o' the walk" at Dr. LeGear's White Rock Farm, Kirkwood, Mo. This bird crowed for a half hour waiting for the photographer to snap him. Dr. LeGear is a nationally known breeder of prize-winning White Rocks, his birds having taken ribbons at all the important shows in the middle west and at the San Francisco World's Fair.

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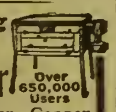

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E. J. Keefer, poultry expert of 424 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhoea over night. All poultry raisers should write for this valuable free book.

WILL SAVE YOUR CHICKS

Any reader of this paper who will write P. J. Kelly, the Poultryman, at 70 N. 2nd St., Minneapolis, Minn., will receive a Free Copy of his new booklet, "White Diarrhoea in Baby Chicks." It tells how to prevent, remedy and save the whole hatch. It's free and this paper urges you to write for it at once.

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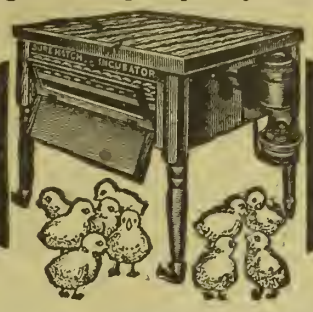

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Nearly $700,000,000 was paid last year to Farmers, Farmers' Wives and Poultry Raisers for Poultry and Eggs. What share of this year's greater amount are **you** going to get? Get in this big, profitable business **now.** Get in **right.** War is bringing bigger profits in poultry **now** than ever before. Chicken meat must replace all the beef and pork that is being exported. There is a shortage now. Help supply the demand.

300,000 Owners of Sure Hatch—20 Years Experience

Don't waste time and money experimenting. Sure Hatch chicks make money sure, because they are strong, sturdy and healthy. The hen herself can't raise better nor anywhere near as many. **Sure Hatch** is easy to operate. The children can take care of it—it's so safe and simple. Will last for years. It will pay for itself many times over in a year. Some wives have made 1000% profit the first year—over ten times the cost of the incubator.

It's Just as Important to Raise Chicks as to Hatch Them

The *Sure Hatch Fresh Air Colony Brooder* raise **all** Sure Hatch chicks hatched. Self-feeding, self-regulating, simple, safe, enduring. Costs less than 6 cents a day to operate. Saves little chicks from cold, smothering, etc. Raises **all** Sure Hatch chicks.

Don't Wait—Get Our Big Book Today—FREE

A post card brings it to you promptly. You can see then what others have done—what you can do. Learn how to prepare and secure cheap poultry feed. The Sure Hatch comes to you complete, fully equipped. No extra charges, no freight to pay. Write for the book **today.** It means money for you. It's Free. Mail a post card today.

SURE HATCH INCUBATOR CO. Box 51 FREMONT, NEBR.

Get 100% Efficiency From Your Feed

The U. S. Food Administration predicts a 40% to 50% reduction as compared with last year's poultry feed prices. But you cannot afford to waste a pound of feed. You are wasting it—losing good dollars—if your fowls are not digesting it perfectly.

Perfect digestion prevents feed waste and increases production. Your birds will get the full benefit of everything they eat and earn bigger profits if you use

Pratts Poultry Regulator

America's Original Guaranteed Poultry Tonic and Conditioner

It assists digestion in a natural way—tones up the entire system—sharpens the appetite—stirs sluggish egg-producing organs into activity—makes hens lay—turns loafers into steady producers.

Used and recommended by leading poultry authorities. Pres. T. E. Quisenberry, of the American School of Poultry Husbandry, uses it at his great experimental farm. He says:—*"Pratts Poultry Regulator is used every day in the moist mash, except when salts or sulphur are fed. We use this as per directions furnished with the Regulator."* It will pay you to follow the advice of this recognized authority.

Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—*"Your money back if YOU are not satisfied"*—the guarantee that has stood for nearly 50 years.

Write for free poultry book

PRATT FOOD COMPANY

Philadelphia Chicago Toronto

Pratts

180

S. C. White Leghorns Exclusively

The Rowley Egg Farms want to announce for the breeding season of 1918 that they have a very fine lot of two-year-old hens and cock birds which will be used as breeders this season. We have 1917 hatched pullets in the National Leghorn Egg-Laying Contest at Leavenworth, Kans., Out of 69 pens in competition we stood fourteenth at the end of December. The only Colorado birds in the contest. We claim merit for our birds and are willing to prove it. Get your orders in NOW for Eggs. We will book you with a small deposit. Eggs, $7.00 per 100; $1.50 per setting.

THE ROWLEY EGG FARMS CO., Palisade, Colo.

Meeting of Dairy Farmers

The value of the cow-testing association to the dairyman was well illustrated at the annual meeting of the State Dairymen's Association held at the Agricultural College January 15 and 16, during the sessions of the Colorado Farmers' and Farm Women's Congress. Roud McCann, deputy state dairy commissioner, in reporting on the four cow-testing associations in Colorado, quoted some interesting figures from the records of the Arkansas Valley Cow-Testing Association, which has just completed its first year.

The records of this association showed that the average production of butter fat per cow for the year was 210 pounds; average production of milk per cow, 6,214 pounds. The total value of all products per cow was $140.19. The feed cost per cow for the year was $75, the cost per pound of butter fat, .358, and the cost per hundred pounds of milk was $1.21. Returns for $1 invested were $1.86.

In his address on cheese-making in Colorado and Wyoming, E. F. Burton, agent in dairying, Laramie, Wyo., declared that conditions in Colorado were ideal for the manufacture of cheese and that they even surpassed those in Wisconsin, one of the largest cheese-producing states.

Attendance at the meeting was unusually good this year. At the business meeting held Wednesday morning, the following officers and directors were elected:

President—C. W. Hall, Denver.

Vice-president—Mrs. Agnes L. Riddle, Denver.

Secretary-Treasurer — R. McCann, Fort Collins.

Directors—C. W. Hall, Western Holstein Farm, Denver; Gilbert Landell, Fort Lupton. Geo. T. Sinton, Colorado Springs, W. S. Partridge, Holly; A. M. McClenahan, Greeley; G. E. Morton, Fort Collins; Mrs. Agnes L. Riddle, Denver; W. A. Groom, Boulder; Roud McCann, Fort Collins.—Colorado Agricultural College News Notes.

Where the Farmer Boy Serves Best in the Army

Continued From Page 4

training camps at this time, a very good proportion of space is given to intrenchment, at which our friends from the rural sections excel.

Ordinarily infantry intrenches itself whenever it is compelled to halt for a considerable time in the presence of the enemy," it quotes from the Infantry Drill Regulations; then it adds:

Trenches are constructed with a view of giving cover which will diminish losses, but they must not be so built or placed as to interfere with the free use of the rifle.

A good field of fire is the first consideration. The construction of a trench is simple; but the location of it is difficult. If possible, trenches are laid out in company lengths.

Intrenchments usually take the following forms:

(1) Hasty Cover: Constructed by troops with the tools they carry on their persons. It is a shallow trench, with a parapet at least three feet thick and one foot high. It furnishes cover against the rifle fire but scarcely any against shrapnel.

(2) Fire Trench: It should be deep and narrow, with the parapet flat and concealed. While in it the troops fire at the enemy; hence the name "fire-trench."

(3) Cover Trenches: The supports sleep and live in these trenches, hence they are covered. The cover (roof) must be thick enough to acord protection from high-angle artillery fire. It is placed as near the fire-trench as possible.

(4) Communicating Trenches: These connect fire-trenches with the cover trenches and the cover-trenches with any trenches (reserve) in rear where natural covered communication is impracticable. They are zig-zagged, to escape being enfiladed (that is, to prevent one explosion from doing too much damage in a single trench). During an engagement troops, by using these trenches, can go safely to the help of the troops in the fire-trenches. They are usually deep and narrow.

All of which reads simple enough and, given all the time one would wish and all the security of a farm in peacetimes, would be no such difficult task. Out under fire, however, with stubborn rock in the soil, a rain pouring down, things of that sort to contend, the matter is quite different, indeed!

The Farm Home

Continued From Page 16

we send is what we save."—Miss Lacey.

"We may best serve our country thru sacrificing, substituting and saving."—Miss Haynes.

Other Features

Wednesday's meeting was on the use of meat substitutes, and on Thursday sugar substitutes and economical methods of preserving foodstuffs. Discussions on "The Family Meal in War Time," accompanied each program, and a leaflet prepared by Miss Allison entitled "Our Home Card," was much read and discussed.

On Friday the program was in charge of Miss Haynes, state director of home demonstration work, and it would not be possible to give our readers any satisfactory idea of this splendid session, so we shall keep this for a later issue. At any rate, why should not the influence and help of this congress extend thruout the year and be our means of help and inspiration?

Echoes

Miss Anna Barrows recently told the homemakers of Oregon that every woman needs a larger view angle to make the most of her home life opportunities. It is in this largely that the home demonstration agents represent not merely the work of cooking, sewing and housekeeping, but also the big phases of home life. They should be optimistic, not critical; putting away the petty, personal things. This is a war that is fought to advance the common work and calls for the spirit of working together.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

1963—New and Pleasing Apron Model. Cut in sizes 34, 38, 42 and 46 inches bust measure. Requires 5¼ yards 36-inch material for size 38. This model is comfortable, with its semi-fitting lines and trim shapes. The skirt is cut in pointed outline at its upper edge, where it joins a gathered waist front. At the back, waist and skirt are cut in one.

2353—Popular Model. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Requires 7¾ yards 36-inch material for size 38. Gingham, percale, chambray, seersucker, flannelette, lawn, drill, linen and gabardine are nice for this style. The fronts are closed in coat style. The skirt has gathered fullness.

2342—Dainty Dress for Mother's Girl. Cut in sizes 6, 8, 10 and 12 years. Requires 4 yards 36-inch material for 8-year-size. Batiste, voile, charmeuse, satin, taffeta, velvet, serge or gabardine could be used for this model. The tucks on the skirt may be omitted. The dress may be finished without the bolero and with long or short sleeve. This style lends itself nicely to combinations of material.

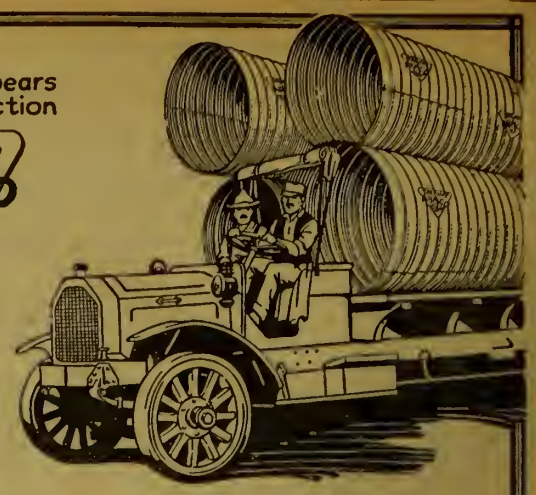
2328—Jaunty Top Garment. Cut in sizes 8, 10, 12, 14 and 16 years. Requires 3½ yards 44-inch material for 14-year size. Double-faced cloth, cheviot, serge, broadcloth, checked and plaid mixtures are all good for this style.

CATALOG NOTICE

Send 10c in silver or stamps for our Up-To-Date SPRING AND SUMMER 1918 Catalog, containing 550 designs of Ladies', Misses' and Children's Patterns, a concise and comprehensive article on dressmaking, also some points for the needle (illustrating 30 of the various simple stitches), all valuable hints to the home dressmaker.

This Mark Appears on every section

AMERICAN ARMCO INGOT IRON



Rushing "ARMCO" Culverts to the Cantonment at Camp McClellan

Installed quicker – Last longer

PROBABLY some of the fastest road making ever done in this country was during the recent construction of the Nation's new training camps.

This speed was partly due to the fact that many

"ARMCO" IRON CORRUGATED CULVERTS

could be shipped on a day's notice, and could be installed in a few hours' time by inexperienced labor.

Long years after the war is over these culverts will be doing duty. Or if the camps are abolished the culverts can be dug up and used again, because they are made of "Armco" Iron. They resist rust for many, many years because made of an iron practically free from impurities.

For full information as to rust-resisting "Armco" Iron Culverts, Flumes, Sheets, Roofing, and Formed Products, write to

ARMCO IRON CULVERT MFRS. ASSOCIATION
CINCINNATI, OHIO

Write for Our Big Plan Book

Let us send a ready-cut home to you

Build YOUR home by the method of TODAY—all materials cut to fit—all detail work perfectly done in our factory—we ship it to you, READY-CUT and ready to erect.

YOU SAVE LABOR—MONEY—TIME—and get an attractive house that is tight and staunch and warm YET VERY LOW IN COST. Hundreds of our customers will tell you of the economy of our methods.

6c Brings Our Big Plan Book

PENNER MANUFACTURING CO. 314 Ship St. Portland, Ore.

BUY YOUR

Blackleg Vaccine, Cattle and Sheep Dips, Branding Liquid, Cotton Seed Cake and Meal, Range Salt, from

Davis Watkins Dairymen's Mfg. Co.

Successors to

THE L. A. WATKINS MDSE. CO.

1513-23 Wazee Street Denver, Colorado

Stockyards Office, 318 Livestock Exchange Bldg., Denver, Colo.

10,000 DAY-OLD CHICKS 40 000 EGGS FOR HATCHING

S. C. White LEGHORNS The Famous TOM BARRON Egg Machines--282 Egg Blood

Our Leghorns are range-raised, strong, healthy and vigorous. Tested 8 years for heavy egg production. Sure winners at the egg basket. Why not come to headquarters for bred-to-lay Leghorns? They will cost you no more. Highest quality—lowest price. Get our big free price list before you buy eggs, chicks or stock. Write

THE FOWLER EGG FARM Fowler, Colo.

Send for NEW CATALOG
Well Drilling Machines

Have a Business

Owners of "AMERICAN" Well Drilling and Prospecting Machines make large profits either as a regular business or a side line. The demand for wells is large, and from our extensive line comprising 59 styles and sizes, we can select a machine suitable for almost any locality or formation, and arranged for almost any kind of power. Write for new illustrated catalog No. 145, Free

THE AMERICAN WELL WORKS
General Office and Works: Dept. 27 AURORA, ILL.
Chicago Office: First Nat. Bank Bldg.

SAVE MONEY ON ENGINES

Buy direct from my factories, where I build a powerful, economical, reliable, perfectly designed Galloway Masterpiece Engine from the highest quality materials and sell to you at lowest manufacturers' price. Tens of thousands in satisfactory use. All sizes from 1¾ to 16 h.p. portable, stationary, saw rigs, pumping outfits. They operate on

GASOLINE OR KEROSENE

Also build manure spreaders, cream separators. 300,000 satisfied customers, some near you. Close shipping points save freight. My free catalog describes Galloway goods. Get it before buying.

WM. GALLOWAY CO., Box 1835 Waterloo, Iowa

SAVE MONEY ON SEPARATORS

Buy direct from my factories, where I build the closest skimming, easiest cleaned, modern designed separators, from highest quality materials, and sell to you at lowest manufacturers' prices—less than wholesale.

Nearly 100,000 Galloway Sanitary Separators giving satisfaction everywhere. Four practical sizes. Also build engines and spreaders. 300,000 satisfied customers—some in your vicinity. Close shipping points save freight. My free catalog honestly describes Galloway goods. Get it before buying. Please mention implement wanted.

WM. GALLOWAY CO., Box 1828 Waterloo, Iowa

HEAVEN AND HELL

Swedenborg's great work, 400 pages, 15 cents postpaid Pastor Landenberger, Windsor Place, St. Louis, Mo.

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

GOVERNMENT LANDS—BOOKLET. JOSEPH Clark, Sacramento, Cal.

I WANT TO HEAR FROM OWNER OF FARM OR unimproved land for sale. Mrs. W. Booth, Pulaski, Iowa.

WANTED—TO HEAR FROM OWNER OF GOOD farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

FOR SALE—640 ACRES OF THE BEST IMproved dry land in Douglas Co., cheap, with or without stock and implements. G. Gerber, 417 28th St., Denver, Colo.

I HAVE SOME CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give full description, location and cash price. James P. White, New Franklin, Mo.

IF YOU WANT TO BUY A NICE HOME OF 40 acres adjoining Ordway, Colo., the county seat of Crowley county, in the heart of the greatest farming belt of Colorado, write A. O. Drumright, Box 145, Ordway, Colo.

IRRIGATED FARM FOR SALE—225 ACRES, five miles from Denver Stockyards, one mile from railroad station. First-class water right, excellent improvements; liberal terms. J. D. Hitch, 525 Cooper Bldg., Denver.

STOCK AND HOG RAISERS GET QUICK PARticulars of 200,000 acres richest Everglade forage land. Prices lowest. After the war—what? Answer: More beef, pork, sugar. Be wise; get busy! Tatum Land Company, Miami, Florida.

WE FORECLOSED ON 600-ACRE RANCH, Western Slope, half agricultural, half range. Good water rights, buildings, eight miles from market, adjoining United States Forest Range. Will sell reasonably, part cash, terms on balance. Splendid proposition. Interstate Trust Company, 15th and Stout, Denver, Colo.

"THE OZARK REGION OF MISSOURI AND Arkansas," along the Kansas City Southern Railway, contains an accurate description of Western Arkansas and Southwestern Missouri, of the farms, crops, towns and cities, and opportunities for business in all lines of endeavor. Splendid country to live in. Write for a free copy. F. K. Woodruff, Director of Development, 611 K. C. S. Bldg., Kansas City, Mo.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Held, Sterling, Colo.

FOR SALE—40 HEAD HIGH-GRADE HOLstein heifers, a few good red heifers, all coming 2-year-olds, some springing. A few good Holsteins and Durham cows, 8 head of registered Holstein bull calves from 2 to 8 months old. Phone or address A. L. Everitt, Castle Rock, Colo.

HOGS

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC JERSEY BOARS, ALL AGES, FOR SALE. Cholera immune. Also Single Comb White Minorca Cockerels, $2.00 each. Henry & Purvis, Johnstown, Colo.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

QUALITY DARK CORNISH. MATING LIST. R. H. Jandebeur, Alma, Neb.

QUALITY DARK CORNISH, THE IDEAL FARM fowl. W. W. Officer, Fowler, Colo.

FOR SALE—THOROBRED LIGHT BRAHMA cockerels. E. Groaacr, 2240 Perry, Denver.

A FINE LOT OF S. C. RED COCKERELS FOR sale. Get them now—$2 to $3. Ed Grotenhuis, Crawford, Colo.

HALL'S S. C. REDS WIN AGAIN AT WYOMING State Fair. Some fine birds for sale at low prices. Liston L. Hall, Gering, Neb.

SINGLE COMB WHITE LEGHORN BABY chicks, 15 cents each. Orders booked now. Mrs. Anna Hege, Sedgwick, Kan.

WINTER LAYERS — BARRED PLYMOUTH Rock Eggs; 15, $1; 100, $5. Mrs. Lon Edwards, 1105 Garfield Ave., Loveland, Colo.

BUFF ORPINGTON COCKERELS OF QUALITY. Winners at Canon City and Salida shows. $5 each while they last. Geo. S. Turner, Canon City, Colo.

CHOICE S. C. WHITE LEGHORN COCKERELS, $2 to $3. Hens, $2, bred to lay; 280-egg strain. Eggs for hatching. Plainview Poultry Farm, Lebo, Kan., R. 1.

SINGLE COMB WHITE LEGHORNS, HEAVY winter layers; 13 years in the business; batching eggs, day-old chicks. Riverside Poultry Farm, H. D. Walker, La Junta, Colo.

BARRED PLYMOUTH ROCKS; A NICE LOT OF cockerels, mostly of the light or pullet bred line, and a few hens and pullets. Bradley and Latham strain; none better. Chester Blunt, Greeley, Colo., R. 1.

COLUMBIA HATCHERY—ALL LEADING VAriety of baby chickens, cockerels, turkey gobblers and hatching eggs in incubator lots. We ship to all parts of Colorado, Wyoming and New Mexico and guarantee live delivery to your express office. Write for our price list and particulars. P. O. Box 1102, Denver.

HELP WANTED

SALESMEN WANTED — OWING TO CONDItions brot about by the war, we have a few well-worked territories open and will be pleased to hear from interested persons. Applicant must be exempt from draft. McConnon & Company, Dept. R, Winona, Minn.

WANTED—EXPERIENCED FARMERS TO RENT farms under good irrigation system at Rock River, Wyo. All farms have sufficient acreage in alfalfa and good buildings; close to good school and adjoining free range. For further information write H. W. Brettell, Rock River, Wyo.

MISCELLANEOUS

CHOICE WHITE SWEET CLOVER AND ALfalfa at farmers' prices. J. M. Lewis, Virgil, Kan.

FOR SALE—LITTLE BULL TRACTOR, $275. Twelve 100-lb. shotes; weanling colts; White Plymouth Rock cockerels. Lone Tree Ranch, Carr, Colo.

PEDIGREED SEED POTATOES, ABSOLUTELY pure. Famous Dean Baking Rurals, $4 cwt.; Bliss Triumph, $5 cwt. Pure type. McClellan Seed Co., Greeley, Colo.

LUMBER

LUMBER—POSTS. WRITE US ABOUT PRICES delivered your station. Send list for estimate. Pay after unloading. Kirk Company, Box 1138-S, Tacoma, Wash.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford'a, the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

TANNING

LET US TAN YOUR HIDE—COW, HORSE OR calf skins for coat or robe. Catalog on request. The Crosby-Frisian Fur Co., Rochester, N. Y.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

IF YOU DON'T FIND ADVERTISED HERE what you want, write our classified advertising department and they will be glad to place you in correspondence with the right parties.

Breed Up Poultry From Common Farm Stock

Continued From Page 3

However, these two matings did not have for their object a demonstration of how the two males respectively would mark the offspring from the scrub matings, as regards color or markings. On the contrary, the object was to learn how much size or weight a first cross of a standard weight, purebred male would add when mated with the ordinary scrub stock found commonly on the farms of Maryland and Virginia, also elsewhere. In both of these matings, the pullet-hens at maturity averaged nearly two pounds greater weight than the hens that laid the eggs which produced them. Here, therefore, is a practical demonstration of the breeding value of standard-weight, purebred males when used by the average farmer who has "ordinary scrub stock."

JERSEYS FOR SALE

Two 10 months old Registered Bulls from heavy producing cows of the St. Lambert breeding. Write

O. S. LARSON Fort Morgan, Colo.

$25—HOLSTEINS—$25

You can buy calves for less, but when you buy stock from Roberts you get value received. Waukesha County High Grade, 15-16 pure, 5-weeks-old calves. Specify markings. Express paid. Satisfaction guaranteed for $25. Cows, $125. J. A. ROBERTS, Cattle Expert, Waukesha, Wis.

BARGAINS Percherons, Belgians, Shire, Suffolk, Clyde, Hackney, Great Coach Stallions, $450 and up. Good Jacks. One, two and three years' time given purchasers.

R. I. LITTLE

Good Block Des Moines, Iowa

BLUE RIBBON HERD

DUROC JERSEY HOGS

Everything Registered

Stock for Sale

C. F. BURKE, Rocky Ford, Colo.

Colorado Acclimated Horses

A Mile or More Above Sea Level Sounds High—It Is High

Don't Forget This When Buying Horses

A CHANGE OF CLIMATE

Is Very Often a Serious Matter for Horses

Why Take This Chance? Why Buy a Horse and Then Acclimate It?

LET US TAKE THE RISKS

Our Specialty Is Colorado Acclimated Horses

Matured in the Open—Strong, Hardy Western Stock

Visit Our Ranch or Write Us

We Have Something to Show You and Something to Tell You

LET'S GET ACQUAINTED

THE JAROSA RANCH

Breeders Howard M. Jay, Owner

Percherons and Belgian Horses

Holstein Cattle Longmont, Colorado

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred

We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Write us for prices and detailed information.

OFFICES

First National Bank Building, Cheyenne, Wyoming

406 New Live Stock Exchange Building, Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager

WM. J. ROSSMAN, Ranch Superintendent JAMES C. ADAMS, Salesman

Denver The Live Stock Market

Denver is the Highest Market **Most of the Time** and the Best Market **All the Time** for Western Cattle and Sheep.

Time and again cattle have sold on the Denver market for higher prices than the same cattle would bring same days at the Missouri River.

Why don't you market your cattle and sheep at Denver, where they will bring you greatest net returns?

JERSEY BULL We have for sale a Jersey bull calf, born September 19, 1917. He is out of Golden Rod's Dahlia, a very large cow of good type, who is the dam of the heifer winning Junior Championship at Denver two years ago. This bull calf is sired by Minnie's Sans Alol, a son of Financial Countess, former world's record cow. Sans Alol was selected by Mr. Hugh Van Pelt as the herd sire for his Jersey breeding farm in Iowa. Mr. Van Pelt was Judge of the Jerseys at Denver this year, and his judgment on both type and breeding is as good as that of any breeder and Judge in the country. This calf should improve some Colorado herd. Price $100.00.

We now have a new Jersey herd sire, and everyone interested in Jerseys should look for his get next year. He is sired by a son of Gamboge Knight and is out of a Show cow with a record of 839.9 lbs. of butter in a year.

ANIMAL HUSBANDRY DEPARTMENT

Colorado Agricultural College Fort Collins, Colorado

HIGH CLASS JERSEYS AND DUROCS

Majesty Oxford Combination, half brother to the grand champion at Columbus, at head of herd.

Have a yearling son of the great Count Majesty, out of a Register of Merit cow, at right price. Only three of Count's sons left.

Have one March boar, sired by a son of Grand Model, and out of a daughter of Model Critic, a big, long stretchy fellow, at $65, worth a hundred. Will spare one open gilt.

A. M. McCLENAHAN

Greeley, Colorado

A 350 to 900-Pound Separator

For Only $2.00 DOWN

For this small payment down you can have a Brookfield cream separator. It is a close skimming, high-class machine, fully guaranteed, equal to the hardest service, tested by years of actual use. Our liberal offer makes it pay for itself as it goes along. You have a year to pay in small monthly payments. We back this offer with our 37 years of square dealing with hundreds of thousands of men and women everywhere in America. Write for free catalog and full details of our offer.

The Brookfield

Thirty days' free trial on your own farm is your guarantee that the Brookfield Separator will meet any test. You run it yourself. You are the judge. We take all the risk. We could not make this exceptional offer if we did not know the Brookfield has come with flying colors through the severest trials. It is capable of standing up to the hardest work day in and day out. Now is your opportunity to get this separator for only $2.00 down. Don't miss writing for this offer. Cut off coupon and send it for free illustrated catalog and full details of our terms and low prices.

Free Trial

There will be no expense whatever to you for your chance to prove the superiority of the Brookfield by giving it thirty days' free trial on your own farm. If you are not perfectly satisfied, you may return it and we will refund your $2.00 and all freight charges. No offer could possibly be fairer. We are confident enough in the Brookfield separator to send it to you and let you judge for yourself if it does all that we claim for it. So don't delay. Now, remember, should you ask for a free trial, you are to be the sole judge.

Beats Them All

I am certainly satisfied with my separator. It runs very easy, is a close skimmer and is handy. In competition with 208 separators in our district, our separator outskimmed all others and left the least amount of cream in the skim milk.

(Signed) J. W. MEYERS, West Salem, Ill.

Easy Payments

We have made the time payments especially low so that you have a full year in which to pay—while you are learning of the marvelous qualities of the Brookfield—how it gives you greater cream poundage and thus saves the money you pay for it. We charge you nothing for extending you credit. No interest is added. The Brookfield is sold in the exact way we carry on the other departments of our big business. There is no discount for cash. There is only one price for the Brookfield Separator — that is the *very* lowest.

Superior Points of the Brookfield

SKIMS ALL BUT 14/1000 OF 1% OF THE BUTTER FAT—This is the average work of the Brookfield as proved by certified test at Dairy Department of Purdue University, Indiana.

BUILT LOW—Top of milk tank only 35¾ inches from floor — easy to fill. Crank shaft 33 inches from floor and in right position for easiest turning, no back-breaking work.

SPEED INDICATOR — Brookfield Speedometer, patented, cannot be used by any other separator, insures correct speed at all times to get the maximum cream. Brookfield close skimming Sanitary Disc Bowl guaranteed to skim as close or closer than any other.

LIGHT RUNNING—Self oiling ball bearings and patented, self oiling, neck bearing, used exclusively by Brookfield Separators, make easiest possible running machine. Full guarantee covers this point.

DURABLE—All gears made of finest steel and in best workmanship, and enclosed and protected from dust. The Brookfield Separator will run for many years with no care except oiling.

EASY TO CLEAN—Every part of bowl and disc easy to see and clean. No corners or crevices. All parts heavily double tinned and smoothly polished.

Mail Coupon for Free Catalog

Straus & Schram (Inc.)
Dept. 2332 —**W. 35th Street, Chicago, Ill.**

Gentlemen:—Without any obligation on my part please send me your Free Catalog on the Brookfield Cream Separator, also full details on your 30-days free trial offer.

Name.....

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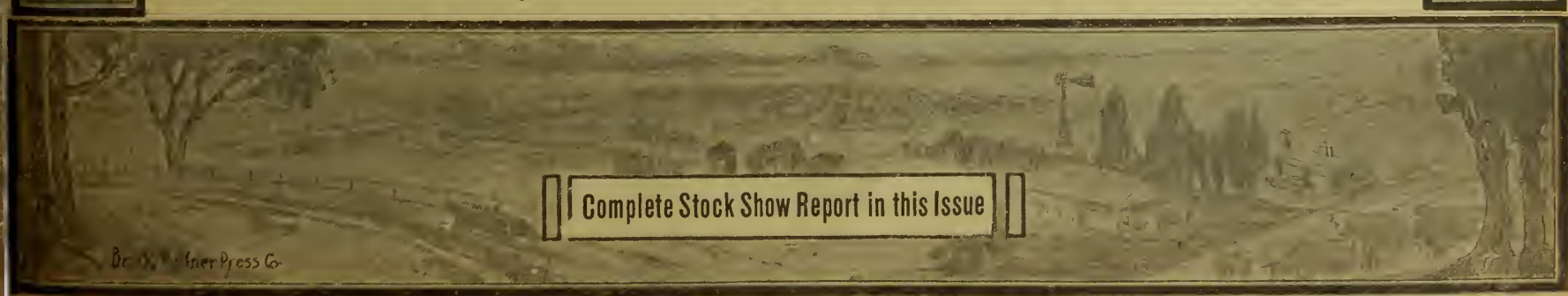
WESTERN FarmLife

VOL. XX Denver, Colorado, February 15, 1918 Semi-Monthly

COLORADO BOYS' AND GIRLS' CLUB WINNERS ATTENDING FARMERS' CONGRESS

Following is a complete list of the club winners who were privileged to attend the Farmers' Congress at Fort Collins and the Stock Show at Denver. (Not all of the young men and women were lined up for the photograph from which the above cut was made): El Paso County: Olga Maring, Ruth Carter, Esther Wilkins, William Poley, Harold Holman, Delbert Peterson, James Madden, Edward Mangas. Kit Carson County: Beulah George. Logan County: Clarence Woodward, Julia Dolan, Alvera Belstrom, Verdie Franken. Morgan County: Warren Leonard. Montezuma County: Leon Halls. Lincoln County: Louise Williams. Canon City: Lawrence Swanson. Fremont County: Marie Lehrer, Clarence Hays. Boulder County: Vera Manchester, Helen Hookaday, Irene Swanson, Winifred Blackwell, Emsley Linton, Merril Linton, James Bird, Carl Hixson, Ray Bennett, Vern Longan. Montrose County: Charlie Coffman, Ronald Milligan. Las Animas County: Marcus Vigil. Garfield County: Laurice Harmon, Lucile Huston. Kiowa County: Violet Kellerman, Charles Dawson, Rheu Williams.



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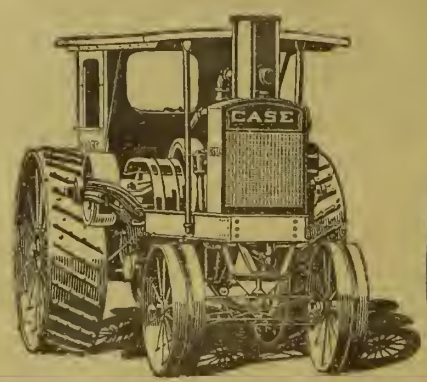

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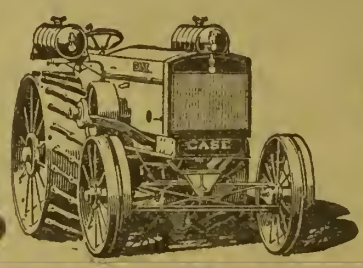
Line of Case Kerosene Tractors



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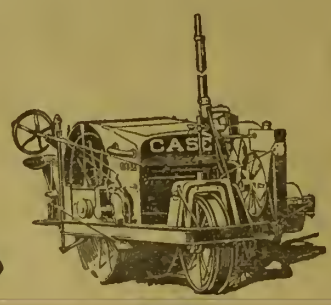

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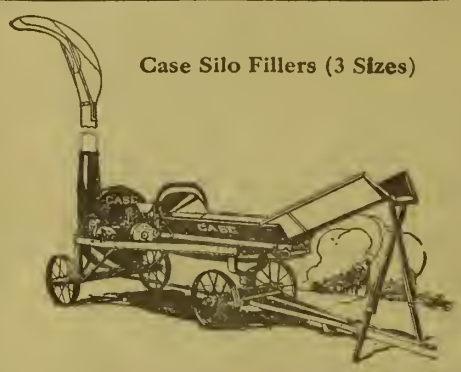
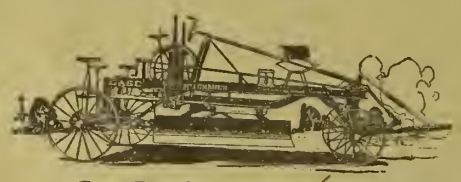
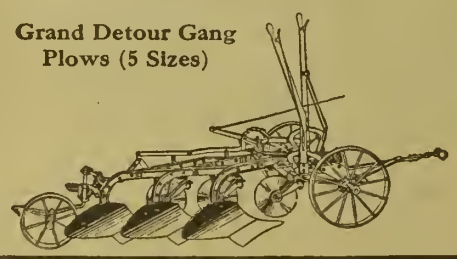


Case Silo Fillers (3 Sizes)

Case Threshers (7 Sizes)



Case Road Graders (3 Sizes)



Grand Detour Gang Plows (5 Sizes)

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SEVERAL years ago, when gasoline tractors began to come into more general use, there were men of two minds. Some who bought Case Tractors on the principle that Case has always offered the best. Some who became lost in the maze of 200 different makes—and began to experiment. Today there are fewer of the latter class. Fewer men are willing to risk their dollars. They have noted the bitter experiments of some of their neighbors.

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Today Case Tractors are better than they were three years ago—or two.

Case engineers have added new features—greater efficiency. Some ideas came from farmers—some from official tests, some from inventors.

So if Case Tractors were leaders last year, they should go far ahead this year. They have gained that same dominance in their field that Case Threshers and Steam Tractors enjoy in theirs.

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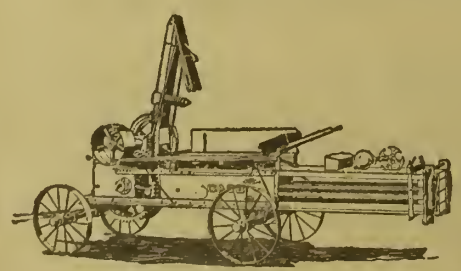
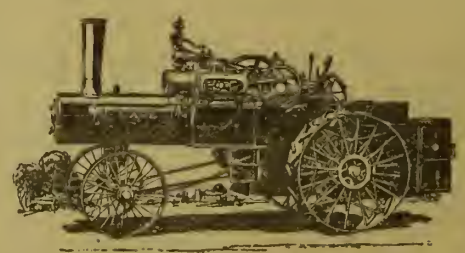
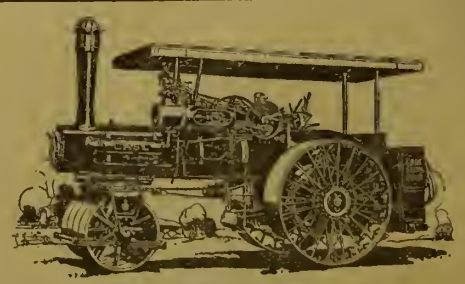


Case Hay Balers (2 Sizes)



Case Steam Tractors (8 Sizes)



Case Road Rollers (2 Sizes)

WARNING! *We want the public to understand that our plows are NOT the Case Plows made by the J. I. Case Plow Works*

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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, FEBRUARY 15, 1918 | Number 4

Comparison of Western with the International Show

PROF. MORTON POINTS OUT WEAK SPOTS IN THE EXHIBITION

GEORGE E. MORTON

SPLENDID opportunity was given me this year to compare our National Western Stock Show with the great International, except for one thing; at the International I was a visitor, with nothing to do but study the stock, and look around for a few head to purchase; while at Denver, because of our showing nine different breeds of stock, as well as much other business coming up, I was unable to see the Western as I would have liked to do.

The show was stronger in nearly all of its departments than it has been heretofore. One or two departments showed reduced entries, partly because of the extremely inclement weather in the east; but as a whole, the show was the best ever held, and the attendance was also the best we have ever had. The departments which I had the best chance to watch were the swine and sheep divisions, and these furnished a very good show. Draft horses were present in larger numbers than usual, and the quality also was higher.

The same thing was noticeable at this show that one could see at Chicago, namely, more stretch and action in the heavy horses. In the individual fat steer classes, competition is becoming very limited among the purebreds. Breeding bulls are selling at such strong prices that it is a good deal of a waste to make a steer of a good bull, and only the good ones can win. A steer that is good enough to win grand championship in a purebred class would be good enough to sell for at least five hundred to one thousand dollars as a bull.

We must make our show of crossbreds and grades stronger, as our purebred steers diminish in number as in reality, the one great lesson of the show must always be the finished animals ready to go to the block. Such an animal is the goal of all breeding and feeding, and unless we set store by the lesson to be taught from a good steer class, we are bound to adopt artificial standards for purebred stuff, and get such a reaction as came in the swine world five or six years ago.

The Shorthorn classes are growing stronger every year, and the Hereford men who have prided themselves upon making the best show of cattle, and obtaining the best prices for them, must look to their laurels, or they will find themselves tobogganing. The yards exhibit of feeder cattle was a remarkable sight, as usual. This is one of the divisions in which we outclass every other show. Denver undoubtedly is the greatest feeder cattle market, and more good stuff ready to go into the feed lots can be seen there at the time of the Western show than at any other time or place. The Herefords won the grand championship in the feeder class; while the Shorthorns won grand championship in the fat carloads; so honors were evenly divided.

Sheep Shows Reinstated

The sheep show has been reinstated after a number of years' absence. Hampshires, Shropshires, Cotswolds, Southdowns, and Persian and Karakule sheep were shown.

In the swine department the hottest competition was in the Duroc-Jersey classes. A good many Colorado breeders have taken up the red hogs, and there are enough competitors to make things interesting.

Mr. Caldwell Martin f Denver and Mr. F. L. Crow, Hutchinson, Kans., divided honors on grand championships, the former winning on boar and the latter on sow. Mr. Martin's grand champion boar is a remarkable animal for an under-year pig, showing size, quality and a well-balanced body.

The most notable winnings in the younger stock were made by the get of Orion Cherry King Again, the sire heading the Agricultural College herd. In the under-six-months boar class and the under-six-months sow class the college took first, second, third and fourth, in each class, with more animals in competition than in any other class in the show, three places out of each four being on the get of Orion Cherry King Again.

The J. O. D. Ranch of Aroyo, Colo., made a good exhibit both in the breeding and the barrow classes. They won grand championship on barrow, and among a number of winnings in breeding classes took first on junior yearling boar, a son of Orion Cherry King. This pig was one of the outstanding animals of the show and undoubtedly will be heard from in the future.

The judge, W. A. Weaver of Columbia, Mo., picked a very uniform type thruout, and his judgment was satisfactory to the breeders as a whole. In one or two cases the awards might have been switched slightly, but this is true of every show where there are some close classes. The breeders were practically unanimous that they would be glad to see Mr. Weaver back to judge again.

Mr. Burke of Rocky Ford showed his aged herd boar, Burke's Good Enuff Again, which got in the money at the National Swine Show, and at this show he won first in the aged class. Two other notable exhibits in his herd were his aged sow, Lulu Enuff, and an under-a-year boar, which is an outstanding specimen of the breed, and one of the best prospects for future development to be found in the state. Mr. Brauer of Colorado Springs exhibited a number of the get of Illustrator's Chief, and the get of this boar made prominent winnings, being of the stretchy, high back type desired by breeders at the present time. Mr. J. B. Benedict exhibited a number of good type animals. One of the best, to my opinion, was the yearling sow that is a daughter of Old Orion Cherry King. She is a very breedy type, and Mr. Benedict is to be congratulated on the addition of such a sow to his herd. Mr. Crowe, in addition to his grand championship sow, showed a number of animals of wonderful scale and finish. Mr. Crowe is one of the best fitters coming to the Western show and rarely allows anyone to outclass him on the development of his pigs.

Look Out for Durocs

In Poland-Chinas the competition settled down principally to a contest between Mr. Eleck Baldwin of Nebraska and the college at Fort Collins, the latter coming out victorious with both grand champion boar and grand champion sow. Mr. McGillvray of Boulder showed Poland-Chinas of considerable scale, and Mr. Broad of Golden and one or two other exhibitors appeared in the ring for the first time in recent years. So far as I am able to judge, in demand for hogs the Poland-China is an even favorite with the Durocs for farmers' use; but unless Colorado breeders come to the front with some well-fitted herds for the Denver show, which is our big swine show of the year, the Duroc breeders will take the trade to an extent which will make it difficult for the Poland-China breeders to recover the place which is rightfully theirs.

Berkshires were exhibited by Mr. C. W. Henry, Greeley; Mr. Sutton of Lawrence, Kansas, and the Agricultural College. Mr. Henry won the grand championship on boar, which is noteworthy as heralding probably the last appearance in the show ring of the great Berkshire breeding sire, Cavalier, who has never been defeated. While shown only in the west, I am satisfied, after having seen the greatest Berkshire boars of the east, that Cavalier could have gone into the eastern show ring and commanded a prominent place year after year, just as he has done here. Mr. Sutton won grand championship on sow with an animal of good scale and quality. A number of breeders of Hampshire hogs brought an exhibit which was the first to appear in our show.

I had little opportunity to watch the dairy judging, and so cannot comment intelligently upon it. The judge, Mr. Van Pelt, is one of the best judges of dairy cattle in the country, and no set of exhibitors recognize his ability more than our exhibitors at the Western show. I am inclined to believe, however, that Mr. Van Pelt, in common with all eastern judges of dairy cattle, is still inclined to pick quality as against ruggedness, when the two come in contact in the show ring. The goal of our western breeders is a big, robust animal, with great vigor and capacity; and we hope that judges that we call to our show ring will recognize this effort and help us to sustain that standard in the west, even tho it conflicts a little with eastern standards. It is quite true that a calf growing rapidly will sometimes grow out of proportion, developing faster in one part of the body than another; but it is just as true that that same calf will come out in the end quite as well balanced as the calf that has grown more slowly, and he will be a larger, bigger, more useful animal than the one that is refined and well balanced thruout his growing period.

Wyoming Fairfax, Grand Champion Hereford of the National Western Stock Show, Owned by the Wyoming Hereford Corporation

Spring Tillage For Crops on the Dry Land Farm

PARSONS DRAWS LESSONS FROM THE DROUTH OF LAST YEAR

E. R. PARSONS

COLORADO'S RAINFALL RECORD

	1917	Mean Annual
Denver	9.24	14.02
Colorado Springs	12.54	14.53
Pueblo	13.00	11.95
Trinidad	13.44	16.98
Limon	19.28	13.43
Burlington	20.54	17.18
Cheyenne Wells	13.33	16.85
Rocky Ford	8.95	12.67
Lamar	11.93	15.74
Greeley	...	12.96
Grand Junction	6.00	8.31
Durango	13.32	16.67

THE dry year always comes. Some were prepared for it; some were not.

A few good years, and the bad years are forgotten; then suddenly a dry year catches some of our farmers with shallow plowed fields, and some which have been cropped twice with only one plowing, and no moisture in the subsoil; then the trouble begins, for facing a drouth without any conserved moisture is like meeting a panic without a bank account.

The writer has always advocated deep plowing and the fallow system as far as possible, because he has proved up on it for the last 40 years on several different dry farms in different parts of the states, and so have many others, and it is acknowledged by all who avail themselves of these methods that moisture may be carried over from year to year until several feet of moist subsoil may underlie every field, available to the crops for their battle with the drouth whenever it happens to come.

Twenty-four years ago there were two consecutive dry years; they sometimes come that way. They knew very little about dry farming at that time, and very little of the plowing was over six inches. The consequence was, hundreds of abandoned farms.

We do better now mainly because we are learning to plow. We raise something even in the dry years, and nobody talks of quitting, but it is discouraging to the farmer to have to buy feed after dry years, with his profits from the good years.

Nineteen-seventeen was a tremendous vindication of the summer fallow for wheat. Wherever this was efficiently practised the crops were almost normal in spite of the drouth. All thru the great wheat belt of eastern Oregon and Washington (originally sagebrush wastes), where fallowing is religiously practised, an average of 30 bushels was secured on a precipitation in many districts of less than 8 inches.

Those who read about Canada and the northwest often wonder what the secret is of the farmer's success in wheat raising. It is like all other secrets, very simple when you know it. If you go to Canada to raise wheat you have to fallow your land whether you wish to or not—there is no other way out. The season is so short that unless your land is plowed the year before, and all ready to slap the seed in the minute the frost is out of the ground, the late summer frosts will catch your Fife wheat before you can harvest it. Any man who has good soil and is satisfied to plow deep, and to fallow, need not move any nearer to the Arctic Circle to raise good wheat.

The dry years indicate that spring plowing for immediate planting to grain is a mistake. The first to dry out are the oats and the next to go is spring wheat, or winter wheat which has been run in on stubble.

Plowing should commence on the dry farm as soon as the frost will allow it, and disking may commence as soon as the top 3 or 4 inches are thawed out. Disking makes the breaking of sod much easier and should be used on old plowed land as well, for it improves the tilth of the lower layers of the seed bed to plow under a well-disked surface. It is also good policy to disk all fields which are waiting for the plow so that they will remain moist, for it sometimes happens that soil which has not been tilled becomes too dry to plow even in spring time when it happens to be a long time between showers.

Some moisture may usually be conserved for late crops by spring fallowing, which consists in plowing early and disking and harrowing alternately, enough to destroy the weeds until planting time about June. The spring fallow will be found much better for corn, sudan grass, the sorghum tribe, and beans than late plowing, which is always too dry and over-aerated, and can hardly be satisfactorily packed.

Beans Shallow Rooting

Some of the best crops of beans last year were raised on summer fallowed land which had been originally intended for wheat. Fall plowing also is better for this crop than spring plowing, and depth counts. The roots of beans, unlike those of wheat, seldom work their way very deeply into the subsoil; but like those of potatoes, they subsist mainly on the seed bed, and naturally the deeper the seed bed the more beans.

We have never recommended the planting of winter wheat after any crop without plowing; but if the farmer wants to take a chance beans are his best bet, and in case of a poor promise in the spring he can always plow it under in time for corn or some sorghum crop.

Beans, wheat and corn make a very fair rotation for the dry farmer. Alfalfa or white clover are also excellent in the place of beans, but they occupy the land too long for those who are raising cash crops rather than feed for stock.

Last year was hard on beans, nevertheless the crop did remarkably well considering, and with a little deeper seed bed the yield could easily be doubled in an average season. When we consider the wonderful adaptability of this legume to dry farming conditions, its benefit to the soil and its value as human food in this period of worldwide food shortage, the writer believes he is right in saying: Stay with the bean!

Harrowing Winter Wheat

Should winter wheat be harrowed in the spring? Such a question is always hard to answer because we are usually unacquainted with the history of the crop in question.

If the wheat has been planted in August at a depth of 2½ to 3 inches in a well-plowed field in which some moisture has been conserved, it should pretty well cover the ground before December. When this is the case a good harrowing is just what it needs as soon as the ground is about right to work in the spring. Winter wheat is often pastured in winter. This does not do much harm so long as the soil is frozen underneath; but to feed it down so as to delay the maturing of the crop cuts the yield, and pasturing it in sloppy weather may destroy the stand. As a general rule the wheat does the best which is pastured only by the jackrabbits.

After winter wheat has jointed, it may still be cultivated with the spring tooth weeder. This is particularly useful when the stand is heavy and dry weather indicated.

Speaking about jointing; the other day someone remarked that if winter wheat is planted too early it is apt to joint in the fall. Our experience is that true winter wheat does not joint until it has been well frozen. We planted some once which was sold to us for spring wheat. It came up in April, remained green like a lawn and did not joint or head until the next year.

There are some crosses, however, like Blount's, which will joint any time. August is the best month to plant winter wheat this side of Kansas or Nebraska line and the best time to plow for it is as soon as the spring crops are in, and sooner if possible.

Spring wheat and other grain should be planted on fall plowing, and should be in the ground by the 20th of March. Varieties of oats which are not hardy may be planted two weeks later.

In southern Colorado, New Mexico and Arizona, on account of the lateness of the rains and a longer season, there is not so much need of early planting, which in the latitude of Denver and from there north always does the best.

Food Administration Decides to Push Pinto Beans

LAMSON'S REPORT STIRS GROWERS AND JOBBERS TO ACTION

PINTO beans are being put on the map. Efforts put forth during the last six weeks at Washington are beginning to bear fruit in an increased demand for the big crop still in the hands of Colorado and New Mexico growers. Credit for these efforts should be given the Agricultural department of the C. B. & Q. railway. This company has placed its agriculturist, Mr. J. B. Lamson, at the service of western growers. Mr. Lamson's work has been recognized by the United States Food Administration in an official way, and he has opened headquarters in Washington, from which point he will carry on a publicity campaign that ought to popularize the pinto not only in this country but abroad.

Mr. O. H. Liebers of Denver, who is the Burlington's agriculturist in western territory, has just been appointed by Mr. Hoover to take full charge of the marketing of the pinto bean crop in five western states. Plans are being worked out now that will be ready for announcement before March 1st, and that will assure a market for the present crop and a large acreage of beans in 1918.

At a meeting held in Denver late in January and attended by both jobbers and growers of pinto beans, Mr. Lamson made a complete report regarding his activities and the results so far accomplished. At this meeting, which was held under the auspices of the Farm Bureau of the Civic and Commercial association, it was decided to ask the jobbers and growers to appoint a joint committee to raise a fund, to be used in giving publicity to the pinto bean. This publicity is to be supplementary to what Mr. Lamson is doing. The results he has secured are summarized as follows:

1. It is entirely unlikely that the Food Administration will do anything toward buying the entire bean crop and thus establish a price which would net western growers of pintos a fair profit.

2. They have no power to compel the army to purchase beans at any stipulated price, they may only advise and suggest. They have urged the army to purchase as many pintos as possible and have done some special introductory work to acquaint the army with the pinto bean. More work along this line is needed.

3. From a publicity standpoint we can expect a great deal from the administration. Plans are under way now to carry on an extensive campaign for the pinto.

4. We also have reason to expect some very good results in the export line. The administration has recommended the purchase of pintos in this country by our Allies and certain other plans to encourage a wider use of pintos abroad are now being developed.

Hoover Knows Pintos

The Food Administration is fully aware that the present price of pintos is such as to be discouraging to growers. Mr. Hoover, personally is well acquainted with the pinto bean situation, knows the excellent food value of the pinto and is in sympathy with the growers' demands for fairer prices. He appreciates that the price of pintos as compared with navies is too low and that the price differential should be reduced. The Food Administration is not responsible for the present price situation. It will aid growers in every reasonable way to get fairer prices. It is the intention and policy of the administration to do justice to the farmer.

Four suggestions were made to the administration. A discussion of each follows:

1. Buy over the entire pinto bean crop at a price sufficient to enable the growers to make a fair profit, in the same way as the government is buying the wheat crop, and thus establishing a price. The administration has the authority, granted by Congress, to do this.

2. The second suggestion was that the Food Administration induce the army and navy to make additional purchases of pintos on a price basis sufficient to net the growers 8 cents, which would tend to stabilize and elevate the price. It is impossible for the Food Administration to do this. The supplies bought for army and navy are bought at the lowest possible prices from whatever source. The Food Administration has no authority whatever to issue instructions to the army and navy as to what they shall buy. They simply have power to suggest and recommend. They have already recommended to the army that they raise their bids for pintos because the price has fallen to a point where it is unprofitable to the growers. The army advises that they have been offered the pinto as low as 7 cents per pound and they will not buy pintos at a higher price than it is necessary for them to pay.

The Army Responsible

The Food Administration was in no way responsible for the 7¾ cents army price to jobbers. This price was determined from figures furnished to the army by the Federal Trade Commission. The establishment of this price has caused the Food Administration a great deal of trouble, and they feel that an injustice was done to the pinto interests. The differential established by the army was made on the basis of market demands entirely, and not on the instrinsic value of the pinto as compared with the navy. This is really the whole story as to the present low price of pintos—they are not known, and the trade demands a white bean.

The army, like the general trade, desires white beans and all their specifications call for white beans. The Food Administration has induced the army to try some pintos, but up to date they have not had great success in handling them.

3. The third suggestion was that the Food Administration put their official stamp of approval on the pinto bean and urge a wider use of pintos thruout the country, especially in our large consuming districts in the east; that they make a strenuous campaign with the various Food Administrators in these states and carry on a wide publicity campaign in an effort to bring a satisfactory food product to the public at a low price. Such a

Turn to Page 20

Financial and Other Details of the Big Stock Show

ALVIN T. STEINEL

MEASURED in dollars and cents, the twelfth annual National Western Stock Show was the most successful ever held. Measured by the educational value to breeders and farmers, the same may be said of the exhibition, which is to the west what the International Stock Show is to America as a whole, and which is distinguished from even that great event by features that are unique to the west. Instead of depressing, the war has had a stimulating effect on the big show. One reason was that in spite of high feed costs and other difficulties due to abnormal conditions now existing, there seems to be a determination on the part of western and cornbelt farmers to stay in the livestock game.

Men who visited the Chicago show in December came home with a gloomy feeling that it would probably be the last International during the war. The reverse was the case with a large majority of the breeders who exhibited in Denver. They feel that mounting costs are not an obstacle to the educational stock shows, because the pressure for more meat and still more meat to supply the demands of a fighting and a hungry world is so urgent that every facility must be provided to enable the general farmer to select stock to replenish and improve his herds. They feel, furthermore, that if necessity exists in normal times for the best animal blood, this necessity becomes greater in periods of high cost of production because then, if ever, scrub stuff is handled at an absolute loss.

So it was that the cornbelt producer of finished beef came to Denver to pick up stockers and feeders; the general farmer came to get new blood for his herd; the dairy farmer to pick out bulls or heifers to fill the place of the "dead ones" who are eating their heads off in the stalls at home. The same applies to the horseman, the hog man, the sheep man, the lamb feeder and the poulterer. Each producer in his own line found at Denver the breeder ready to supply him, be his wants what they may—Shorthorns, Herefords, the blacks for beef, the dairy breeds, Percherons, Belgians, rams, ewes, sows or boars, hens, roosters and so on down to rabbits, ducks and geese.

It was regrettable that Herbert Hoover, our national food administrator, could not have been with us a day or two, so that he might have come face to face with the producers' problems on the ground. A representative of the Food Administration was here, but no public meetings were held, as it was his wish to make a quiet investigation. These people who put their time and money and livestock into the two-million-dollar show are the backbone of the meat-producing industry. It is from this mountain country, still sparsely settled, that the great surplus of meat products goes into the coolers. A good many had expressed the hope that the sag would be taken out of beef and fat lamb prices by lifting the embargo on those two classes of meats so far as Colorado is concerned. The beef men were told that it would be impossible but the fat lamb men were given hope by the Food Administration representative, who admitted that as there was no foreign outlet for fat lambs, there was no particular reason for restricting domestic consumption.

But whatever the decision at Washington, it is the spirit of the West to acquiesce without grumbling and take losses if necessary, but continue to make beef, if that is what we must do to help win the war.

Bank Clearings $8,000,000

It might be interesting to know that the bank clearings of the two financial institutions at the yards amounted to about $8,000,000 for the week. This represents a large part of the business done in the yards and in the arena with stock brought in for sale. Records of other years for carlot sales of feeders were far outstripped and prices kept pace with the numbers. Sales of individual animals in the arena were not sensational as far as prices were concerned, nor were there as many breeding animals bought for shipment to distant points as during the previous year. It was a home crowd around the auctioneers in the arena, eager to get good bulls or classy females for utility purposes at the lowest prices possible. It was true of both Hereford and Shorthorn auctions that the buyers were judges of what they wanted and they refused to let the auctioneer influence them.

If breeders thot they should have had more for some of the individuals of particular merit, they have the consolation of knowing that good blood is being disseminated in Colorado and Wyoming, where the industry needs it.

It is important to know that B. T. Bartlett of Greencastle, Mo., at private sale, got $4,000 for Kleburg Lad and that the bull goes to J. J. Rezac of Tabor S. D., who came here for a herd header. But it is worth a lot more to the industry as a whole that a committee of farmers from Garfield county, Colo., came here to buy all the young purebred bulls they could lay hands on—and that they closed for 103 animals which have gone out to the Western Slope in five carlots for service on the mountain ranches, where scrubs were considered good enough a few years ago. This purchase alone amounted to $23,000. The committee that did the buying was composed of R. C. Allred, county agriculturist, Frank E. Sweet, Otto Hunawald, Fred Larson, Henry Hasley, Charles Sheidler, Frank Squires, Mr. Mayer and John Carlyle. The consignment included both Herefords and Shorthorns and prices ranged from $150 to $450.

A similar mission was that of several farmers from the Uncompahgre reclamation project who got two carloads of registered Shorthorn and Hereford bulls, and who were advised in their purchases by the government agriculturist of the project, Mr. H. A. Lingren. This lot goes to Delta and Montrose counties.

These committees saved from $50 to $75 on each animal by coming to the stock show to make their purchases, besides being able to select with ease from offerings of the best herds in the west.

The Feeder Sale

All previous records for sale of feeder cattle were eclipsed, both in price and quantity that went thru the auction ring in two days. Buyers were here from a dozen states, the sale reports showing shipments going to Illinois, Iowa, Missouri, Nebraska, South Dakota, Kansas, Wyoming, Montana, New Mexico and Idaho, besides many carloads for the feeding districts of Colorado. The total number of carloads sold was 270, as against 212 the previous year, which was the record up to that time. The average for the entire sale was $10.33 per hundred pounds, as against $9 a year ago.

The highest price ever paid for feeder cattle at any market was paid during the sale, when the grand champion load sold for $15 per cwt. The steers (Herefords) were raised and shown by Russell Bros. of La Jara, Colo. The purchaser was A. E. McGregor of Washington, Kans., who will give them a corn finish. T. A. Mostyn of Ouray, Colo., sold the reserve champion carload to Mike Kannedy of De Kalb, Ill., for $12 per cwt.

The feeder sales which are so important a part of the Stock Show, are concrete proof of the fact that our western grasses have the nutriment and that our rangemen understand their business. Feeder buyers come in constantly increasing numbers each year from the cornbelt states and their insistent demand for these cattle, in spite of an uneasy feeling regarding the effect of reduction in domestic consumption of beef, shows that they have not lost faith in the market. The good condition of these cattle indicates that they will not tarry long in the feed lots.

The Hereford grand championship went to Wyoming Fairfax, header of the largest herd of the breed in the West, namely, the Wyoming Hereford Corporation of Cheyenne and Denver. This outstanding individual is a grandson of Perfection Fairfax and in every way a worthy descendant of that notable sire. A. B. Cook of Townsend, Mont., drew the award for grand champion female.

Cook topped the sale of breeding animals in the arena with Montana Fairfax 22nd, a senior bull calf, for which he got $1,700. He shared the honors for top price on females with Dr. De Witt, the figure being $1,600 for Princess Daisette of the latter herd and Lady Kitchener from the Cook herd.

Howell Rees & Sons of Pilger, Neb., won the Shorthorn championships against strong competition in one of the best showings ever made by that breed in the west. In the sale of breeding animals the top figure was $835, no records being made, but the demand for young bulls being especially strong.

The undertone of war was evident thruout the week. People did not forget, in the bargaining, that there was need for giving. The Red Cross gained handsomely thru the generosity of a number of breeders and dealers in livestock. A carload of twenty fancy purebred Hereford heifers donated to the Red Cross by the Denver Live Stock Exchange sold for $13,000, thru the efforts of Col. P. M. Gross and the liberality of stockmen, commission men and packers. And as soon as they were sold the hat was passed for a collection which added $1,748.24 to the fund. On first sale they brought $8,000 from a pool formed by 23 individuals and firms, who immediately put them back into the ring for re-sale, when they brought $5,000 more, the purchaser being B. C. Rogers of the Omaha Livestock company, who takes the heifers to his ranch at Lewellen, Neb. Rogers also got a $600 bull donated by Tom Mortimer of Madison, Neb., to the highest bidder on the Red Cross carlot.

The Red Cross Sales

Over in the stock show arena the Red Cross also got some substantial donations. Two purebred Hereford heifer calves donated by H. Bert Cave of Parker and John Painter of Roggen to the Red Cross, put up at auction, brought respectively $400 and $600. The bidding was by Weld against Larimer county, as the two breeders had made their donations to the county Red Cross funds of those two counties. The followed the dairymen's Red Cross auction detailed in a separate article.

The poultrymen then took a hand in the giving, W. E. Vaplon of Fort Collins donating "the only pen of Liberty fowls in America," a real red, white and blue combination which attracted much attention in the poultry department. Mrs. M. E. Penrose of Denver was the purchaser at $20 for the three birds.

Nor were the swine breeders behind in liberality. The pig donated by Tom Tynan, warden of the state penitentiary and sold at the behest of the Denver Post Optimist's club for the benefit of local war sufferers, was disposed of at the rate of $1.50 per pound, the Brown Palace hotel paying $75 for the little purebred Berkshire.

VIEW IN THE ARENA DURING THE JUDGING OF THE SHORTHORN BREEDING CATTLE AT THE NATIONAL WESTERN STOCK SHOW

Agricultural College Display

SERVICE TO FARMERS IS EMPHASIZED

"YOUR COLLEGE" expressed the thot of service that was stressed in the exhibits of Colorado Agricultural College at the National Western Stock Show. Just how Colorado farmers can take advantage of the many practical activities of the institution was shown so that all who viewed the exhibits might comprehend. Every phase of rural development was there reflected—the household and the farm in their commercial and social aspect.

Lantern slide lectures on farming and household topics were given several times each day in a small hut convenient auditorium adjoining the exhibit. Among the speakers were Director C. P. Gillette of the State Experiment Station, State Forester W. J. Morrill; H. W. Allinger, hyproducts expert for the United States Office of Markets in Denver; Prof. R. W. Clark, livestock specialist for the extension department of the Agricultural College; Prof. C. G. Sargent, head of the Department of Rural Education; Prof. W. W. Robhins, hotanist; Miss Haynes and Miss Mahel Camphell, home economics specialists, and others.

Beginning with home-making, we will take a look at the Home Economics department exhihit, which was in charge of Miss Miriam Haynes. Three things were emphasized—conservation of foods, conservation of health and conservation of clothing—the three war essentials from the standpoint of the housewife, rural or urhan. Right here let it he said that the rural housewife has a decided advantage over her city sister in having at command a department at the Agricultural College that is helping in a most practical way to make home life more attractive and consequently more useful to the home and the nation.

So much has heen said in the puhlic prints about food conservation that this feature of the exhihit may he passed over for the present, to consider what, to the writer, was a new activity—tho the women may all know ahout it. This is the conservation of clothing, cleverly shown by exhihits in overcoats for Johnny made from old ones Dad used to wear, the various uses of sugar and hran sacks, the made-over garments on a foundation of worn ones found in the closets and the protection of dresses by aprons of wash goods. It occurred to me that perhaps we men ought to he doing our part in clothing conservation and not be ashamed to wear patched trousers hecause Miss Haynes says: "Every patch is a thrift stamp."

Why conserve clothing? The answer was read on a placard: Wool is needed for clothing and hlankets; cotton is needed for explosives and hospital purposes; leather is needed for shoes and harness.

In food conservation we were told of the "Three eats to save: M—eats, sw—eets, wh—eats."

"Cherish thy parings" was another food economy hint and "A word to Colorado wives is efficient," a paraphrase upon an old saying that expressed the willingness of the women to save and conserve that the war may be won.

There was apparatus of all sorts to show the housewife that inventive genius has not overlooked the kitchen. There was a kitchen sink.

"Something new in sinks?" inquired Mere Man, sarcastically.

"The same old sink," said Miss Haynes, "hut it's 32 inches from the floor to the base and not to the rim."

"How interesting! Is that the law now?" (He was still sarcastic.)

"It ought to he. If you don't understand these things it is because you have never had to bend over the kitchen sink to wash dishes. If you were a housewife and your hushand or the plumher had set the sink 26 inches from the floor instead of 32, your hack would tell you what a discomfort it is. That's why this sink is here—to tell the woman a story she can tell her husband when she gets home."

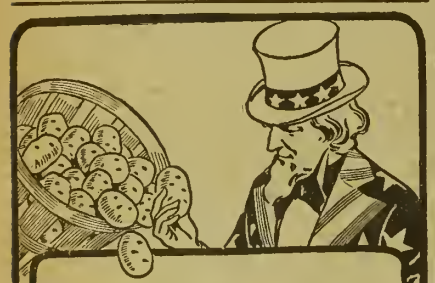
From the home to the school is a natural transition; so we shall step across the aisle to the exhihit of the department of Rural Education, under the direction of Professor C. G. Sargent, whose school consolidation work has attracted national attention. "They" said it couldn't he done in a sparsely settled state like Colorado, hut Prof. Sargent has shown us that the need in a sparsely settled region is even greater than in thickly populated states. The story here was told in photographs. First there was the hig frame that showed us a motley collection of school houses unworthy the name. There were one-room shacks of weather-heaten weatherboard, soddies and 'dohes and the heading read: "An educational scrap heap that should he added to."

In contrast to this was the New Raymer school and the eleven abandoned one-room buildings that it replaced—a monument to the enterprise of a dry land community on the eastern horder of Weld county. Then the Parker consolidated and its three "ancestors." The La Jara school, costing $30,000, with its 10-acre site, a four-year high school, agriculture and home economics department and auto transportation for the pupils. Another interesting picture was that of the Fruitvale school in Mesa county, huilt on the cottage plan, with a complete high school.

Training for rural life is the ohject at Fruitvale. Then there is the Rio Grande county $30,000 huilding, with teacherage and garage, one of the most complete school plants in the United States. Five buses transport 150 pupils daily and five district schools were swallowed hy this consolidation. It's over across the Sangre de Christo range in the San Luis valley where we find this advanced rural educational institution.

Others shown were: Appleton consolidated school near Grand Junction, with a four-year accrediated high school and seven trained teachers;

Turn to Page 22



Smooth Potatoes

With usually a thirty to forty per cent. increase yield assured to every grower if he will rid his seed potatoes of potato scab and black-leg by using

FORMALDEHYDE
The Farmer's Friend

the official Standard seed cleanser to prevent smuts and fungus; flax wilt. Potato scab and black-leg once in the ground may persist for many years. The U. S. Department of Agriculture recommends cleansing seeds with Formaldehyde solution to prevent spread of potato diseases and smuts of grain. Formaldehyde in pint bottles at your dealer, 35 cents. Big illustrated book sent free.

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100 WILLIAM STREET NEW YORK 5

New Kherson Oats

RUST-PROOF, RIPEN EARLIER

Stiffer straw. Just the oat for the Middle West, where so much grain falls down every year. New Kherson will stand up and carry a heavy head of oats. The biggest yielder we have ever seen.

Get our prices on all field seeds — they are hardy stock bred to fit this western climate.

Our Seed Corn complies with the Nebraska State Law. Better change your seed this year and raise a big crop.

Vegetable Seeds—See our catalog for some unusual varieties.

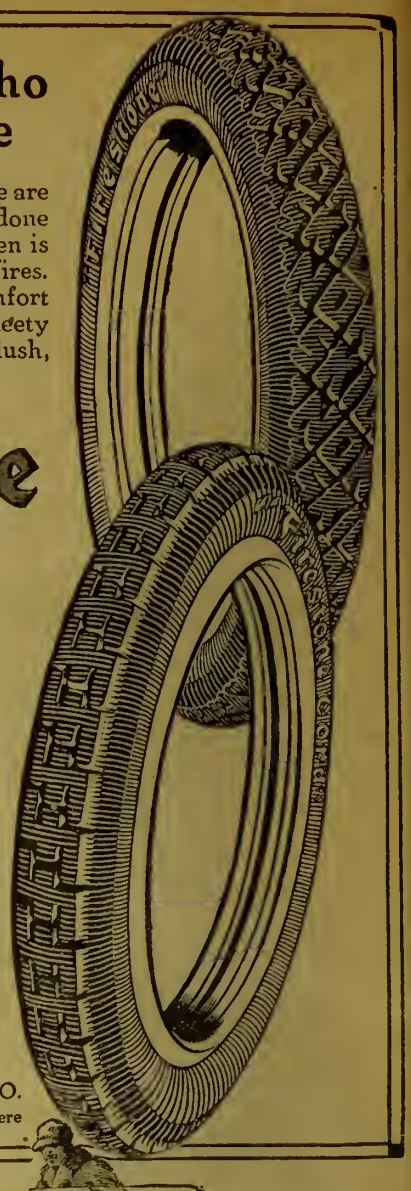
Apple trees 10c each, 1 year from graft or bud. All kinds of Fruit trees, shrubs, garden and flower seeds. Catalog free.

Sonderegger Nurseries and Seed House
45 Court St., Beatrice, Nebraska

For the Men Who Get Things Done

ON your busiest days when there are certain things that must be done regardless of road or weather, then is the time you appreciate Firestone Tires. They will get you to town in comfort and on time. Over frozen ruts, sleety roads or through deep snow and slush, you can depend on

Firestone
TIRES



There is economy as well as safety in the Non-Skid lettered tread. Out of that added rubber, piled high in the center, you get good-measure wear. Fuel-saving will interest you at this time especially. Unusually long runs per gallon is the rule on Firestone Tires.

More Rubber Between Fabric Layers reduces internal friction and heat. This extra rubber and thick cushion layer adds to resiliency and is most effective in eliminating stone bruise.

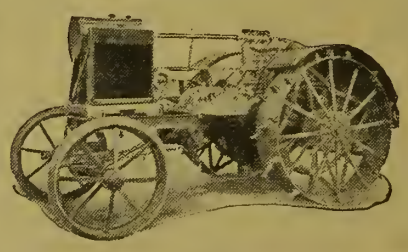
Special Enforcement gives strength at the bead and holds the hinge or bending point in the proper position.

Firestone Cord Tires will astonish you with their combination of lively, comfortable going with stout resistance against wear. Your dealer is ready. See him today.

FIRESTONE TIRE AND RUBBER CO.
Akron, Ohio Branches and Dealers Everywhere

FLOUR CITY
Kerosene Tractors

The Result of Eighteen Years' Continuous Effort in the Manufacture of Tractors



There's a Flour City To Fit Every Farm

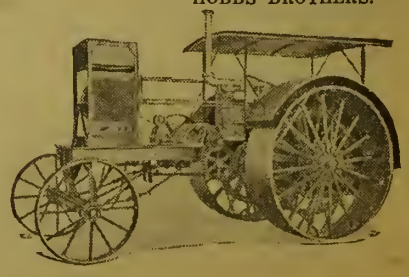
FIVE SIZES

12 to 40 H. P. at the Drawbar
Built for the man who knows and appreciates good machinery

Write for catalog of the Flour City Line

New Raymer, Colo., Nov. 30, 1917.
Kinnard & Sons Mfg. Co., Minneapolis, Minn.
Gentlemen: Regarding the 40-70 Flour City tractor purchased of you last spring, we have had a very successful season with it. Our total repair expense to date has been $5.00. We have plowed 300 acres of sod, averaging 25 acres per day; double disced, seeded and harrowed 600 acres at one operation, averaging 50 acres per day of 8 hours, and using one gallon of kerosene per acre. Our average fuel consumption in breaking was 2 gallons of kerosene per acre. We have had excellent results with kerosene and get as much power from it as gasoline. This fall we threshed over 25,000 bushels, with plenty of power at all times. We are well pleased with the Flour City and will recommend it to our neighbors, for after trying out several other makes, we have no regrets for buying this.

Very truly yours,
HOBBS BROTHERS.



KINNARD & SONS MFG. CO.
897 Forty-Fourth Avenue North Minneapolis, Minn.

Boys' and Girls' Clubs

The Boys' and Girls' Club exhibits the National Western Stock Show, ere attractive and highly creditable the youthful farmers by whose industry they had been grown or prepared. There was an especially good owing of corn, potatoes and beans ostly by boys, but this did not involve as much hard work as the exibition of canned goods and garments the girls. Lucile Smith's accomlishment, mentioned in a previous sue of Western Farm Life—namely, e "putting up" of 683 quarts of uits and vegetables, was shown by dummy exhibit, because of the exense and trouble that would have een involved in the transportation of e large consignment from Grand unction to Denver.

State championships in Boys' and irls' Club work were announced durg the exhibition. The county winers, shown in the group portrait that ppears on the cover page of this sue, were the guests of the Farmers' ongress at Fort Collins the week of anuary 15 and then were entertained y the Stock Show association in enver for two days. The trip was he event of their lives for these boys nd girls and they enjoyed it to the tmost. Following is a list of the tate club winners and prizes:

Corn Club — Montgomery school, oulder county; seed corn tester doated by the Colorado Seed Company f Denver.

Corn on Cob Put Up by Susie Jamison, Aged 10

Potato Club—Greeley Agricultural igh school; flag donated by ex-Govrnor Ammons, president of the Farmrs' Life Insurance Company.

Bean Club — Greeley Agricultural igh school; baseball outfit donated y George Tritch Hardware Company f Denver.

Pig Club—Greeley Agricultural high chool; set of agricultural books, doated by Western Farm Life.

Poultry Club—Greeley Agricultural igh school; incubator, donated by Barteldes Seed Company, Denver.

Girls' Canning Club — Valmont chool, Boulder county; pressure ooker, donated by Denver Pressure ooker Company.

Girls' Sewing Club—Boyero club, incoln county; basketball outfit, J. G. Spalding and Bro.

The individual winners were as ollows:

Corn—Jimmie Bird, Lyons.

Pigs—Max Ogle (aged 10 years), Greeley.

Potatoes—Max Ogle, Greeley.

Beans—Victor Paulek, La Plata ounty.

Sewing, 1 Year Class—Beulah George, Vona, Kit Carson county.

Sewing, 2 Year Class—Mabel Hixon (aged 11 years), Valmont, Boulder ounty.

Canning—Susie Jamison (aged 10 ears), La Veta, Huerfano county.

The individual prizes were provided or by George T. Wells of the Denver ational Bank.

An Investment in Efficiency

CERTAINLY the farmer's need for a substantial motor car has never been so great as it is now.

The larger part he plays in national affairs, the increased demands upon his time and knowledge, alike require for him a better means of transportation.

Progressive farmers in all parts of the country are awake to this need and in thousands of instances are wisely meeting it with an Oakland Sensible Six.

In choosing such a car they insure themselves the highest type of service at the minimum of upkeep cost, and their purchase becomes a real investment in efficiency.

The high-speed overhead-valve engine of the Oakland Sensible Six is immensely powerful and economical; it delivers 44 horsepower at 2600 r.p.m., or one horsepower to every 48 pounds of car weight.

The finely-made chassis is extraordinarily strong and serviceable, and the sightly body is swung on long springs over a generous wheelbase, insuring full comfort.

The car as a whole is handsome in proportion and finish; it is unusually roomy and accessible, and is upholstered with genuine leather throughout.

As a perfected example of scientific light-weight construction, high power and fixed economy, its value is not equaled in the present car market.

Owners of the Oakland Sensible Six report extremely high gasoline and tire mileages from their cars.

Touring Car	*$ 990*
Roadster	*990*
Roadster Coupe	*1150*
Sedan	*1190*
Sedan (Unit Body)	*1490*
Coupe (Unit Body)	*1490*

F. O. B. Pontiac, Mich.

OAKLAND MOTOR CAR CO.
PONTIAC, MICH.

OAKLAND SENSIBLE SIX

Increasing the Supply of Meat

NEW FINANCING PLAN IS OF GREAT HELP

E. W. FERGUSON, Jr.

THE whole nation is being brot to its senses by Mr. Hoover and his several able lieutenants as to the matter of actual meat shortage, and especially our beef shortage. The pork shortage does not even need to continue as marked as it is until a new crop is raised, for the common run of hogs can easily carry 10 per cent to 20 per cent more weight than they usually do when being placed on the market, and that very thing is being done right now. Farmers that have usually sold their "grass widows"—old sow stuff—in October were still feeding lots of them until December 1, and are making them 50 pounds or so heavier than usual. This will result in a more immediate relief of our fat shortage than in yielding much more meat, as this class of hogs is the ultra lard type, and I think tha the fat shortage can be relieved with our present small stock of hogs.

The real meat shortage will not be overcome tho, as the added weight of hogs will mostly be lard and the actual flesh gain will no more than make up for the shortage in their numbers. So we must look elsewhere for increase in meat. The next crop of pigs will doubtless be much larger than last year's, so one year hence we will receive some increase from that direction, but it will take two years, with other things working favorably, to catch up by way of the hog route. Not every one cares for pork all the time, but to a large part we may be forced to it as a war ration. The fact of the matter is that we are not nearly so short on pork as we are of beef.

The best estimates we have gave us 40 million cattle in 1880 or eight-tenths of a beef per capita, 52 million in 1900, or seven-tenths of a beef per capita, 53 million in 1910, or six-tenths of a beef per capita, and now only 54 million, or five-tenths of a beef per capita.

The per capita estimate on beef is not quite a fair index because we are butchering many animals at 15 and 18 months now at as heavy weights as we did formerly at 3, 4 or even 5 or 6 years of age; enough to make quite a difference in the annual available supply, but not near enough to make up for this shrinkage from four-fifths of a beef to half a beef per capita.

Neither have we shrunk so much relatively in dairy stock as in true beef stock, so the shrinkage in actual food from cattle is not so great as might seem to be, but on the other hand the decrease in actual beef cattle is greater than the total numbers would indicate. So each year the situation is becoming more acute.

A man with a paper and pencil might sit down and figure out that in a year or two we can feed the world with pork on account of the rapidity of their increase, but while the present large corn crop is going to guarantee us heavyweight hogs and probably a larger pig crop for next year, the size of our next year's pork barrel will depend entirely on the size of the 1918 corn crop, so we are not wise to pin our whole faith on hogs, nor is our Food Administration foolish enough to do so.

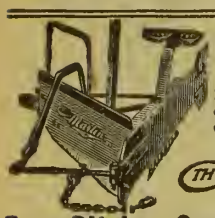
We have a million square miles or more of land that is not profitable to raise hogs on if it ever will be, but which furnishes the finest feed for grazing animals and, while we should increase our pork production to the maximum, we should not neglect our great cattle range and meadows.

The Food Administration has paved the way for a more liberal policy to restock the range than has ever obtained. As is known by those who have kept posted, these range cattle, in times gone by, have been mainly financed on six-months' loans and when the loans were due in the fall the cattle were sent to market, the fatter part of them going direct to the killers and the thinner ones going out again on six-months' paper to the cornbelt cattle feeder.

The new policy provides that our banks in the Reserve system shall be allowed to take cattle paper running a year. This will be a great advantage as it has been a thing western cattle men have asked for the past generation. Six-months' paper at 8 per cent interest will not be as good a proposition for them as twelve-months' paper at 10 per cent even if interest is payable semi-annually, because the element of "squeeze" will be minimized. There are hopes that the forcing of cattle to market in an unfinished condition will be stopped while the government has the packing plants licensed and that will encourage conservative ranching. Altogether ranch and cattle men see more hopeful conditions ahead of them.

One excellent old cattle man that operated under the 8 per cent, six-months' money thralldom offered to pay 12 per cent on three-year money, so that he could feel secure in building up a herd. He maintained that he could well afford to pay the extra 4 per cent and make his interest payments semi-annually in order to get this business stableized. If it would have been a good thing then, why would it not be a good thing now?

It seems strange that it would take a national or rather international crisis to jar finance, politicians and pseudo economists to a point of waking them up to the needs of the cattle and range interests.



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Made of steel and built to last. Reversible and adjustable. Horse and tractor sizes. Works in any kind of soil—wet or dry, hillside or level. No plowing required either for new ditch or for cleaning. A big time saver.

10 Days' Trial—Money-Back Guarantee

Write for complete catalog and list of users near you. Postal will do.

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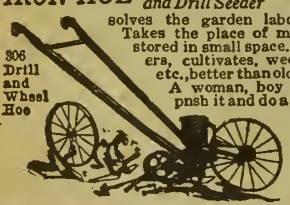
IRON AGE

GARDEN TOOLS

Answer the farmer's big questions: How can I have a good garden with least expense? How can the wife have plenty of fresh vegetables for the home table with least labor?

IRON AGE *Combined Hill and Drill Seeder* solves the garden labor problem. Takes the place of many tools—stored in small space. Sows, covers, cultivates, weeds, ridges, etc., better than old-time tools. A woman, boy or girl can push it and do a day's bandwork in 60 minutes. 30 combinations, $4.50 to $30.00. Write for booklet.



306 Drill and Wheel Hoe

Bateman M'f'g Co., Box 98C, Grenloch, N.J.

C. W. KEITH, Denver, Colo.

400 Candle Power Portable Lamp

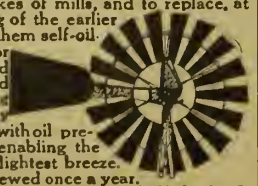
Costs only one-third cent per hour to operate. Handsome, neat and convenient. Nickel plated and highly polished. Last a lifetime. Just the thing for a farm home. Economical. Write for free illustrated booklet describing this and 50 other gasoline lamps.

ALBERT LEA GAS LIGHT CO., 2053 Welton St., Denver, Colo.

Agents wanted; big profits

THE SELF-OILING WINDMILL

has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load. We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.



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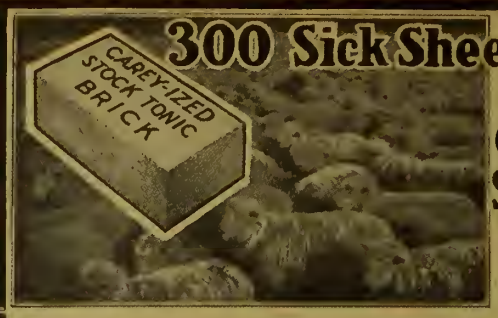

300 Sick Sheep In One Flock Saved by CAREY-IZED Stock Tonic Brick

Enthusiastically endorsed by leading veterinarians and stock raisers.

G. W. Thompson, manager of the Fred Mellick sheep ranch, near Hutchinson, Kansas, writes: "Mr. Mellick had about 300 sheep that were scouring badly and in run-down condition. We got a hundred Carey-ized Stock Tonic Brick and fed them regularly. Those sheep are now as healthy as the balance of the flock, and a lot of them that were very puny cannot be distinguished from the rest. They are all eating their feed good and are gaining faster than any lot of sheep I ever saw."

SHEEP CRAVE AND NEED CAREY-IZED STOCK TONIC BRICK

It is composed of eight different ingredients which nature and science prescribe and which instinct impels animals to seek when ailing. Contains powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbinized peat, quassia, charcoal and pure dairy salt. Equally good for sheep, hogs, cows or horses.

A powerful worm destroyer and conditioner. Aids digestion, keeps bowels, kidneys and liver in order, purified the blood, builds up the entire animal system so it resists all disease. Thousands of feeders testify to its efficiency.

Solid Brick Form Makes Carey-ized Stock Tonic Brick Convenient and Economical to Feed. Does away with the troublesome dosing. Just place it where they can get it all the time. Animals eat only when they need it and as much as they need—take their medicine voluntarily without any bother to you. Salts them at the same time.

Try It 30 Days at Our Risk

Order a dozen or more brick from your dealer; let your sheep and other livestock have free access to it for 30 days. If not satisfied with the result, return what you have left and get all your money back. If your dealer does not handle Carey-ized Stock Tonic Brick write us his name and we'll see that you are supplied.

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Please send me full information on Carey-ized Stock Tonic Brick, also Free Book, "Making Livestock Pay."

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My name.....State.....

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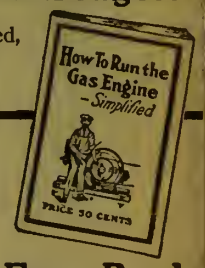


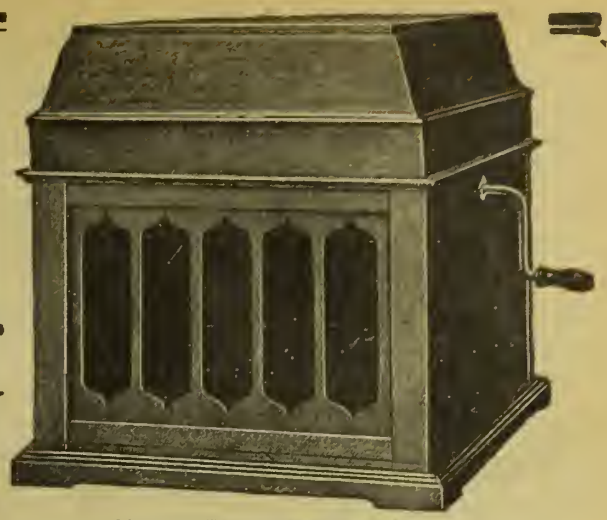
Free Book

Our Engine Book is used by Agricultural Colleges and Technical Schools for class work—but is written in "plain United States." Every engine owner needs one. Mention dealer's name and a copy will be sent you FREE; also ask for our Electrical Catalog.

Ask Your Dealer

EDISON'S *NEW* DIAMOND

AMBEROLA



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MADE IN THE "WIZARD'S" LABORATORY FOR USE IN YOUR HOME. *Will you try it.*

SEE the coupon at the bottom of the page? That little slip of paper sent to an Edison dealer, with your name and address on it, will bring to your home Edison's latest model Diamond Amberola, the wonderful phonograph with the GENUINE DIAMOND reproducer point, no oose needles or any thing like that to bother with.

NO one has to learn to play the Amberola. It is as simple to operate as A, B, C. It will give you any ind of music you like, from "rag" to grand opera. And be sure to bear in mind that it is a GENUINE EDISON INVENTION, made in the great Laboraories of Thomas A. Edison at Orange, N. J. Every part is either designed by Edison himself or one of his most trusted, high-priced assistants, but the design of every part, down to the tiniest screw, is O.K'd by Edison himself before it can become a part of the Amberola.

Just as much as if he knew you personally, Edison wants you to have one of his marvelous New Diamond Amberolas in your home. In this way you may know that it is all that is claimed for it. This will be done on an

ABSOLUTELY FREE TRIAL

No strings to this offer. No red-tape. First you will want to get full particulars about the free trial and especially a copy of

"A MASTER PRODUCT OF A MASTER MIND"

The Beautiful Amberola Booklet, Illustrated in Natural Colors

When you receive this booklet, select from it the model Amberola you prefer, also any twelve records from the Blue Amberol Record Catalog. Blue Amberol Records are almost unwearable and unbreakable. As soon as he can pack and ship them, the dealer will send the Amberola and records. When they arrive make believe they are yours, then you will realize what wonderful times you could have for years to come if they actually belonged to you. No need for either young folks or old folks to go out for entertainment, no more dull evenings.

Unless you are already the owner of a New Edison Diamond Amberola, there is no reason in the world why you should not take advantage of this offer. You will at least have three days of delightful music in your home, and the dealer will consider his time and money well spent, because he knows that, once you hear it, you will have nothing but praise for the Amberola. The sooner you send the coupon, the better chance you will have of getting the model Amberola and the records you prefer.

SOME AMBEROLA MUSIC

The records listed below will give you a good idea of the kind of music you can have with the Amberola. Look over the list. We are sure you will find many of your favorites.

SACRED

Flee as a Bird
Hark! Hark! My Soul
Is My Name Written There
I Surrender All
I Will Sing of My Redeemer
Looking This Way
Lord, I'm Coming Home
O Come, All Ye Faithful
The Palms
Softly and Tenderly

NEGRO MELODIES

Dinah
Kentucky Babe
My Little Cotton Dolly
Ma Pickaninny Babe
Old Folks at Home

VOCAL QUARTETS

Call to Arms
Lorena
Old Black Joe
Owl in the Old Oak Tree
Perfect Day
Quartet from Rigoletto
When the Corn is Waving

ORCHESTRA

Blue Danube Waltz
Somewhere a Voice is Calling
Teddy Bears' Picnic
Whispering Flowers

RECITATIONS

An Old Sweetheart of Mine
Finch's The Blue and the Gray
Lasca
Out to Old Aunt Mary's
Sheridan's Ride

BANDS

Gladiator March
Laughing Love
Night of Gladness Waltz
Old Comrades' March
Rienzi Overture
Skaters' Waltz
Spirit of Independence March
Tambour der Garde Overture

VOCAL DUETS

Somewhere a Voice is Calling
Sympathy—The Firefly
Home to our Mountains—Il Trovatore
Miserere—Il Trovatore
When I'm Gone You'll Soon Forget
Whispering Hope

VICTOR HERBERT ORCHESTRA

Dream Melody—Intermezzo—Naughty Marietta
Red Mill Selections
Ruy Blas Overture

TALKING AND SINGING

Aunt Dinah's Golden Wedding
Funny Doings at Sleepy Hollow
My Uncle's Farm
Turkey in the Straw Sketch

INSTRUMENTAL SOLOS

Jocelyn-Berceuse (Violoncello)
A Dream (Cornet)
Humoreske (Violin)
Mediation—Thais (Violin)
Mocking Bird, Fantasia (Xylophone)
Nightingale (Piccolo)
The Rosary (Cornet)

INSTRUMENTAL TRIOS

Love and Devotion
Love's Old Sweet Song
Titl's Serenade.
Sweetest Story Ever Told

VOCAL MEDLEYS

Favorite Airs from The Beggar Student
Famous Songs in Irish Plays
Favorite Airs from Patience
Songs of Other Days
Songs We Used to Sing in Dixie Land

BELLS

Dancing on the House Top
First Heart Throbs
Light as a Feather
Little Flatterer

DENVER DRY GOODS COMPANY, DENVER, COLO.

If you live in Idaho or Utah write Proudfit Sporting Goods Co., Ogden, Utah

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Please send me the Amberola Book and particulars about your FREE TRIAL offer on Edison Amberolas

Western Farm Life

Issued the 1st and 15th of Each Month.

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The Farm-Labor Shortage

The farm-labor shortage exists because many farm laborers have been attracted, by higher wages, to war industrial work—munitions manufactures, ship and cantonment building, etc.—and because many men from the farms have answered the greatest of all calls—the call of the colors.

The present farm-labor situation cannot be solved unless thousands of people who heretofore have not done farm work now undertake such service. As far as possible a new supply of farm labor must be trained, principally thru boys' camps, and town and city men who will volunteer as farm workers will be needed.

Last year, all over the country, communities and states grappled with their particular farm-labor problem along two general lines—emergency volunteer workers and high-school or other boys assembled in camps, and put thru a short training in practical farm work.

These emergency methods did not meet the situation in a satisfactory way everywhere. There were some sections where the farm-labor shortage was not corrected and where the harvest was reduced for that reason. But there were many more places where the use of some form of emergency farm labor resulted in the saving of crops that otherwise would have been lost.

This year we may have to use even more unskilled farm labor than we did last year. The farmer will understand that this is not a hardship which applies peculiarly to him. In every industry and profession and business, in every human enterprise, revolutionary readjustments have been made necessary by the war. No commercial establishment is without baffling problems, caused by many of its skilled and valuable men volunteering or being selected for war service of some kind. The farmer is not alone in having a labor shortage to cope with. He has a host as company—every manufacturer, every business man, every commercial establishment, every producer.

In Colorado the Council of Defense expects to aid in organizing available sources of farm labor. D. W. Thomas, field secretary of the council and Prof. W. E. Foard, farm management specialist of the Agricultural college, are in direct charge of this work. Farmers or farm organizations interested in the labor supply should get in touch at once with Mr. Thomas, who can be reached in care of the Council of Defense at Denver.

Seed Corn Sale Ads Free For Farmers

Farmers having tested seed corn for sale may have their names and addresses listed free of charge in WESTERN FARM LIFE in the issues of March 1st and 15th and April 1st and 15th. There is a shortage of good seed corn and an unusual demand for varieties that will mature under the peculiar climatic conditions of the mountain states. It is highly important, therefore, in offering seed for sale that the altitude at which it was grown be given, and that it be stated whether the corn was grown with or without irrigation. In Colorado and Idaho provisions of the state pure seed laws must be complied with.

This service is for the benefit of those who are unable to get tested seed corn from their immediate neighbors.

There is also some demand for Sudan grass seed, amber cane, and seed of the grain sorghums, including milo, kafir and feterita. These will be listed on the same plan as above for the next four issues only. This offer is open only to farmers who have grown the seed that is being advertised and who are subscribers of WESTERN FARM LIFE.

Weighing the Babies

This protest is directed to those in authority at Washington and especially to the Honorable William B. Wilson, Secretary of Labor. Under his supervision there is a Children's Bureau, or child welfare department, no doubt accomplishing good in its own way.

This bureau now proposes a nation-wide campaign of registration and weighing and measuring of babies and children of pre-school age, this to be conducted as a governmental war activity, with the advice and backing of nurses and physicians. The campaign is to begin April 6th.

Before further steps are taken toward pushing this campaign thru state councils of defense, let the government take heed that the people of the United States, farmers and other classes of citizens, are now doing their full share in advancing the nation's interests in the war. There is a limit beyond which the government does not have the right to expect citizens to go. We have had campaigns galore. We are willing, as farmers, to increase the acreage of food crops; we have done it at cost to ourselves and shall continue to do it as long as the nation and those who are fighting with us to advance the cause of freedom may demand it. We have bought Liberty bonds and thrift stamps and shall continue to do so. We have given and given again to the Red Cross, the Y. M. C. A. and other auxiliary activities and shall continue to do so as long as the war lasts. These causes are legitimate and worthy, and while the Red Cross and Y. M. C. A. are not governmental activities, they are such as all citizens may consistently support because of the great good that is accomplished.

Child welfare is a matter apart from the war; it is strictly a private and personal affair of the citizens; an activity that has its field in women's club organizations and has not the slightest business intruding itself upon the people as a governmental activity in these times of stress when every dollar and every thot should be concentrated on winning the war. Again, we wish to direct the attention of the responsible authorities to the fact that such an intrusion and a waste of government time and money will not be tolerated or supported by the press or the people.

✦ ✦ ✦

Why English Bread Is Cheap

Some are still asking why bread is cheaper in England than in America. In England a four-pound loaf of war-bread sells for 18 cents, a two-pound loaf for 9 cents, and a pound loaf for 5 cents. These low prices are maintained in England in spite of the fact that the wheat must risk the submarine zone.

The explanation is simple. English bread is heavily subsidized. It is cheap to the people but costly to the government. In Great Britain the government controls all the home-grown grain and imported wheat. This is sold to the mills at a price that under rigid control puts a cheap loaf on every man's table. England's cheap bread, however, costs the government $200,000,000 annually.

Another reason why the Englishman pays less lies in the quality of the bread. In Great Britain a much higher per cent of flour is extracted from the wheat than even the new regulations require in America. A substitution of 20 per cent of other cereals or potatoes is compulsory in bread-making and 50 per cent is allowed.

The high per cent of substitution and government controlled prices explain cheap English bread. The yearly deficit of $200,000,000 on English bread production is paid by the government, but comes out of the people's pockets eventually in the form of general taxation.

✦ ✦ ✦

Pig Club Extension

Three pigs at the National Western Stock Show exhibited by members of boys' pig clubs mark the beginning of an impetus to hog raising in Colorado the end of which cannot be foretold.

For several months Mr. J. T. Tingle, a government pig club specialist, has been working in the state, in co-operation with the Extension department of the Agricultural college. Mr. Tingle comes from Georgia, where 3,500 boys and girls were enrolled as pig raisers last season, each caring for one purebred animal, of an average weight of 250 pounds, and valued at 20 cents a pound; which means 3,500 pigs with a total value of about $175,000 as the contribution of these juvenile hog raisers to the agricultural prosperity of Georgia.

Mr. Tingle is getting both breeders and bankers interested in his work. He has got a hearty response from the breeders who have had plans explained to them and the boys enrolling in the clubs will be able to buy their purebreds at a low figure. Mr. D. Schilling, owner of the famous J. O. D. ranch at Aroya, one of the largest pork-producing plants in the west, will stock clubs in Lincoln county, furnishing as many as 50 purebreds at only $10 each to boys who will handle them right. The clubs in that section will have the privilege of visiting the J. O. D. ranch occasionally to see how pork production is carried on under scientific management and on an extensive scale.

In counties that have agriculturists pig club work has been carried on for one, two or three years, but there have been only a few clubs so far. Mr. Tingle is now working with the county agriculturists as well as in other counties. In Cheyenne he has gotten splendid co-operation from Mrs. Elsie Weir, the county superintendent of education; the same may be said of Washington county, where Mrs. Bachman is pushing organization work, as there is no county agent. In Huerfano county, Waldo Kidder, county agriculturist, has enlisted the aid of bankers who will put up cash in loans to boys who cannot finance themselves in buying a pig. The same plan will be followed in other counties. Mr. Tingle is taking the matter up with swine breeders all over the state, the plan being to procure the pigs as near the home of the clubs as possible.

The various counties will be asked to put up the prizes for their local clubs and arrangements will be made to have a separate class established for the club pig entries at the next stock show.

The work is of great importance to the state not only as a part of the "winning the war" program, but as a permanent factor in agricultural development, educating the youthful farmer in practical animal husbandry, and in business practice at the same time.

Counties or individuals interested may obtain full information by writing to Director H. T. French of the Extension department, Colorado Agricultural College, Fort Collins.

In Sweden lard is selling at $1.50 to $2 a pound and hard to get even at these figures. One pint of milk a day is the allowance for children and invalids; adults get one-half glass skim-milk every other day. Coal costs $100 a ton.

The Branding Iron

Applied by Elias M. Ammons

The lessons of the recent stock show in Denver teach the imperative necessity of pushing this great demonstration school to the utmost, in the interest of true economy. Better breeding and care and early maturity will do more than anything else to solve the meat problem, and this show is the first essential in the campaign.

✦ ✦ ✦

"I will meet you at the stock show in Denver" is an expression that has come to mean something nowadays.

✦ ✦ ✦

Prof. Holden, the corn expert, made a statement the other day that surprised a lot of people, when he said that every farmer was testing his seed corn. However, when he added: "In a forty-acre field instead of a testing box, 14 inches square," he said a mouthful that ought to be heeded.

✦ ✦ ✦

These poor, deluded mortals who still eat navy beans don't know what they are missing. If it were not for the fact that Colorado produced 90,000,000 pounds of pintos in 1917, Branding Iron would be inclined to say: Lay off on that publicity and let's eat the pintos ourselves; they are too good to waste on the East.

✦ ✦ ✦

Others besides ourselves sometimes apply the Branding Iron. Here's a part of a letter from Alva C. Bart of Las Animas, in regard to a suggestion that came to us from a Grand Junction man and which we innocently committed to the column:

I am not familiar with conditions around Grand Junction, but am proud to say that the patriotism of the farmers in the Arkansas Valley is not of the brand that would ask for all the sugar they needed, just because they happened to be beet growers, when all the other people of our nation are saving sugar in every possible way in order that our soldiers and allies might be fed. Let the sugar companies of Colorado pay the farmers a reasonable price for their beets and arrange to receive all the crop over the dumps instead of forcing us to fork about 75 per cent of our tonnage onto storage piles at a time when it is impossible to get sufficient help to properly operate our farms, and we will plant a satisfactory acreage.—Alva C. Bart.

✦ ✦ ✦

Let meatless and wheatless be kickless and whineless,
Lest all days to come be soulless and spineless.

The above comes to us from the official poet-lariat of the United States Food Administration. We assume no responsibility for the spelling of "whineless". We dropped the "h" out some time ago in these parts, but it seems that Washington cannot reconcile itself to the situation.

✦ ✦ ✦

Speaking of meatless days, I caught one of the boys kicking a steer in the ribs the other day and I asked him why he did it. "Oh, it won't hurt him; they don't eat 'em any more," he replied.

Feeding Dried Potatoes

Do you know anything about the value of dried pressed potatoes as hog feed?—J. P. L., Idaho.

For best results the Department of Agriculture advises feeding dried pressed potatoes in combination with feeds rich in protein, such as oil meal, tankage, etc. Soaking the potatoes in water for fifteen minutes before feeding is also advised. An experiment with 12 high grade pigs between five and six months of age was conducted to determine the value of dried pressed potatoes in a ration for fattening pigs, supplemented by rich protein feeds, and to note the effect of the potatoes on the quality of the meat. The pigs were divided into four lots of three each. The first lot, for checking purposes, was fed a ration of six parts of corn meal and one part of tankage. The other three lots were fed rations of six parts of dried pressed potatoes, the second lot supplemented by one part tankage, the third lot by one part of linseed oil meal (old process) and the fourth by one part of fish meal. The pigs in all the lots ate regularly and the conclusion was that the ration was palatable and produced pork readily. In carcass tests after fattening it was found that the quality of the fat was equal to that produced by corn meal, and while just a trifle less hard than that produced by corn, there was no soft pork. You can get complete details by writing to the United States Department of Agriculture for copy of Bulletin No. 596.

Stock Carrots as Feed

Answer to L. S., Lehi, Utah.—You are probably referring to stock carrots. They will serve for succulent feed for hogs or milk cows, but will not take the place of grain in the ration.

Comment by Farmer Putnam

OUR MISSOURI FRIEND FEELS RELIEVED NOW THAT THE STOCK SHOW IS OVER

NOW that it's over I kin breathe easler ag'in. I mean the Stock Show. It's the biggest thing of the year out here and I got to watch it to see that everything goes right. I'm one of the unofficial officials of the show; you know them kind of volunteer fellers that helps out wherever they ain't wanted. Fred Johnson is the boss of the show. I don't think they is another man in the west that's got as many friends in the first three weeks of January as Fred has. Along about February 1 they begin to forget Fred; in March they say "Fred's alright, but I don't see what he allus wants to harp on the Stock Show fur. They is other things goin' on." In April and May they feel the same way, and so it goes on till fall, when they begin to knock the stockyards, the stockmen, the stock show and Fred.

But my, what a change after Christmas! Why, our livestock interests? The finest thing ever fur Denver and Colorado; couldn't git along without 'em, and as fur Frederick P. Johnson, why, he's a prince! (Then purty soon Fred gits a request fur a coupla box seats fur the hossshow!) Such is human natur'.

I been to no end of stock shows, state and county fairs in my time and my opinion is wuth somethin'! I want to tell you-all that the stock show is the greatest and most valuable institution that Colorado and the Rocky Mountain states has. Why is that? Because it is the foundation of our livestock prosperity, and livestock is the foundation of our agricultural prosperity, and agriculture is the foundation of all our prosperity. Take the Stock Show away and what have we got left to bring the people together onct a year? Nuthin'. In the summer time we don't do nuthin' but entertain strangers; sometimes we entertain angels unawares and sometimes not. When winter comes we feel like gittin' our own people together fur a gran' big time, so we have a stock show where Herefords, Shorthorns, Anguses, Holsteins, Jerseys, Poland-Chinas, Duroc Jerseys, Hampshires (pork), Hampshires (mutton), Percherons, Belgians, Leghorns, R. I. Reds, Minorcas—in fact, all breeds and classes of farm and human animals comes together fur a week of joy and business.

I was wonderin', when walkin' around in the cattle sheds goin' from herd to herd of the fine beef stuff, what some of them animals must think about us humans.

Lookin' over the backs of John Painter's herd, I seen that they was all as smooth and even as a dancin' floor; their hair was laid back in a nice curl; their bodies and faces was marked with white, so's you could hardly tell 'em apart. Standin' around was a herd of their human superiors, sizin' up the cattle. They wasn't one human in the bunch but what had a crooked nose, a bald head, bowlegs, bad teeth, was thin fleshed, over fat, stoop-shoulder, or somethin' else wrong with his build; everyone that didn't have no blemish that was visible probably had three or four had spots covered up by his clothes. And I got to thinkin' what a fine show it would make to have them humans entered and let the Herefords judge us accordin' to the standards that we judges them by. I ast one of them whiteface bulls what he thot of us and he sez:

"Putnam, you're a purty good feller and I reckon you want to retain the goodwill of them stockmen and farmers that reads the fool stuff you write. Ain't that so?"

I said I reckoned it was. "Allright then," sez the bull, "you better not git me started. You humans might have us skinned when it comes to brains and gab, but when it comes to usefulness you got to give us the ribbon. You understand, of course, that I'm leavin' Harry Youngerman outen this comparison, because he's one of the most useful humans I ever seen, but he's the exception.

"We have our mission in life, and that's to make as much good beef as our carcass kin carry on a scientific food ration, or do our part in perpetuatin' our race. We tend to that and nothin' else. We don't go fightin' each other, or takin' feed away from each other. You didn't hear me kick about Wyoming Fairfax bein' the champion of this show; I didn't git jealous or sore over it, even if I knowed the judges picked a well-fleshed animal instead of one like me that runs true to breedin' and is in range condition. No, we don't kick up a fuss about every little thing like you humans does. Say, tell me, is it a fact that all the nations in the world is havin' a war? You know my father come from England, but I'm American—born right here in a Colorado pasture, and I hain't never been out of the state and hope I don't have to go, but if it's true what I heard them people talk about all this week that the English is short of beef and liable to go hungry, I hope they kill me tomorrow."

I didn't suspect that thar Hereford to be so patriotic, but his words kind-a made me feel ashamed of some of the kickin' I was doin' when a car of steers that I sold didn't bring what I thot they would. I sez to myself, you got to admit it, Putnam, the domestic animals is a lesson to us; the snow-covered hills is a lesson to us. Everything in the world is peaceful and contented exceptin' only us humans. It ain't the world that's wrong; it's us.

I felt kind-a blue about it till next day when they auctioned off two calves fur the Red Cross, one give by John Painter fur Weld county and one by Bert Cave fur Larimer county. The Weld county fellers beat Larimer by $200, givin' $600 fur Painter's caff. Doc Glover bought the one fur Larimer county fur $400. I was kind-a disappointed, because them Larimer county sports with lots of money didn't show up and make things more interestin'. I reckon the Weld county papers will rub it in.

The dairy fellers done better on their caff auction, gittin' $1,100 fur two Holsteins and one of 'em wasn't even seen in the ring. Doc Work of Pueblo

Turn to Page 22

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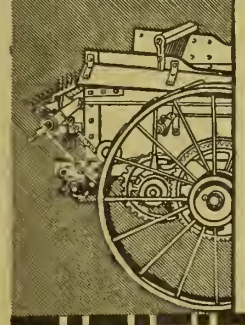

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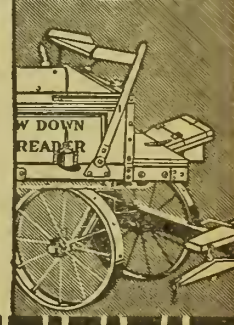

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Beef Breed Awards

Following are the awards made at the National Western Stock Show in the beef breeding classes, including H refords, Shorthorns, and Galloway cattle:

The Herefords

Hereford senior champion bull—Wyoming Fairlax 635311, Hereford Corp. of Wyo., Cheyenne, Wyo., 1.

Hereford junior champion bull—Panama 37th 560172, A. B. Cook, Townsend, Mont., 1.

Hereford grand champion bull—Wyoming Fairfax, The Hereford Corp. of Wyo., champion; Panama 37th, A. B. Cook, reserve champion.

Hereford grand champion cow or heifer—Lady Perfection 3d 496683, A. B. Cook, champion; Shadeland Jewel 2d 594418, B. T. Bartlett, Green Castle, Mo., reserve champion.

Hereford junior champion heifer—Shadeland Jewel 2d 594418, B. T. Bartlett, 1; Bell Mischief 2d 587039, J. D. Canary & Son, Saratoga, Wyo., 2.

Hereford senior champion cow—Lady Perfection 3d 496683, A. B. Cook.

Champion heifer calf (Western Hereford Breeders' Assn. Futurity)—Lady Panama 49th 640424, A. B. Cook, champion; Lady Aster 677010, Otto Fulscher, Holyoke, Colo., reserve champion.

Champion bull calf (Western Hereford Breeders' Assn. Futurity)—Panama 48th 640426, A. B. Cook, champion; Beau Perfection 52d 668644, John E. Painter & Sons, Roggen, Colo., reserve champion.

Champion bull calf in Western Hereford Breeders' Assn. Futurity (The Gano-Downs Co. Trophy)—Panama 48th 640426, A. B. Cook.

Champion heifer calf in Western Hereford Breeders' Assn. Futurity (Daniels & Fisher Stores Co. Trophy)—Lady Panama 49th, A. B. Cook.

Class No. 43—Hereford aged cow—B. T. Bartlett, Green Castle, Mo., 1; A. B. Cook, Townsend, Mont., 2; J. D. Miles, Livingston, Mont., 3; H. Bert Cave, Parker, Colo., 4.

Class No. 44—Hereford cow, 2 years old and under 3—A. B. Cook, Townsend, Mont., 1; B. T. Bartlett, Green Castle, Mo., 2; J. D. Miles, Livingston, Mont., 3; L. C. Grant, Avondale, Colo., 4.

Class No. 45—Hereford senior yearling heifer—B. T. Bartlett, Green Castle, Mo., 1; A. B. Cook, Townsend, Mont., 2; J. D. Miles, Livingston, Mont., 3; T. F. DeWitt, Parshall, Colo., 4.

Class No. 46—Hereford junior yearling heifer—J. D. Canary & Son, Saratoga, Wyo., 1; A. B. Cook, Townsend, Mont., 4; Jesse Engle & Sons, Sheridan, Mo., 2; B. T. Bartlett, Green Castle, Mo., 3.

Class No. 47—Hereford senior heifer calf—Jesse Engle & Sons, Sheridan, Mo., 1; A. B. Cook, Townsend, Mont., 2; John E. Painter & Sons, Roggen, Colo., 3; B. T. Bartlett, Green Castle, Mo., 4.

Class No. F-1—Senior bull calf, Western Hereford Breeders' Assn. Futurity—A. B. Cook, 1; T. F. DeWitt, Parshall, Colo., 2; John E. Painter & Sons, 3; John E. Painter & Sons, 4.

Class No. 41—Hereford senior bull calf—Jesse Engle & Sons, Sheridan, Mo., 1; A. B. Cook, 2; L. G. Davis, Saratoga, Wyo., 3; (Extra), Mousel Bros., Cambridge, Neb., 4.

Class No. 37—Hereford aged bull, American Hereford Assn. Specials—C. F. Behrent, Oronoque, Kans., 1; A. B. Cook, 2; T. F. Dolan & Sons, Denver, Colo., 3; H. Bert Cave, Parker, Colo., 4.

Class No. 38—Hereford bull, 2 years old and under 3—Hereford Corp. of Wyo., 1; A. B. Cook, 2; J. D. Miles, Livingston, Mont., 3 and 4.

Class No. 50—Hereford young herd—A. B. Cook, 1; Mousel Bros., 2; John E. Painter & Sons, 3; J. D. Miles, 4.

Class No. 40—Hereford junior yearling bull—A. B. Cook, 1; Mousel Bros., 2; Otto Fulscher, Holyoke, Colo., 3; L. C. Grant, Avondale, Colo., 4.

Class No. F-2—Junior bull calf, Western Hereford Breeders' Assn. Futurity—John E. Painter & Sons, 1; Otto Fulscher, 2, 3 and 4.

Class No. F-4—Junior heifer calf (Western Hereford Breeders' Assn. Futurity)—Otto Fulscher, 1; Otto Fulscher, 2; A. B. Cook, 3; Hereford Corp. of Wyo., 4.

Class No. 49—Aged Hereford herd—A. B. Cook, 1; J. D. Miles, 2.

Class No. F-3—Senior heifer calf (Western Hereford Breeders' Assn. Futurity)—A. B. Cook, 1; John E. Painter & Sons, 2; Colo. Agr. College, 3; John E. Painter & Sons, 4.

Class No. 48—Hereford junior heifer calf—Jesse Engle & Sons, Sheridan, Mo., 1; Otto Fulscher, 2; Otto Fulscher, 3; Mousel Bros., 4.

Class No. 156—Hereford, two-year-old steer, spayed or martin heifer—Geo. W. Baker, Littleton, Colo., 1; O. H. Sholes & Son, Holyoke, Colo., 2 and 3.

Class No. 158 Hereford, calf steer, spayed or martin heifer—B. T. Bartlett, Greencastle, Mo., 1; Univ. of Neb., 2.

Class No. 39—Hereford senior yearling bull—B. T. Bartlett, 1; J. E. Painter & Sons, 2; Mousel Bros., 3; A. L.Weston, Denver, 4.

Best calf herd of Herefords (A. T. Lewis & Son Dry Goods Co. Special)—Jesse Engle & Sons, 1.

Best four Hereford animals, either sex, get of one sire (Bohm-Allen Jewelry Co. Challenge Trophy)—Jesse Engle & Son, 1.

Class No. 53—Hereford, produce of dam—Mousel Bros., Cambridge, Neb., 1; B. T. Bartlett, Green Castle, Mo., 2; Jesse Engle & Sons, 3; A. B. Cook, Townsend, Mont., 4.

Class No. 51—Hereford calf herd—Entry 654, Jesse Engle & Sons, Sheridan, Mo., 1; A. B. Cook, 2; Mousel Bros., Cambridge, Neb., 3; John E. Painter & Sons, 4.

Class No. 52—Hereford, get of one sire—Jesse Engle & Sons, Sheridan, Mo., 1; B. T. Bartlett, Green Castle, Mo., 2; Mousel Bros., 3; A. B. Cook, 4.

The Shorthorns

Shorthorn senior champion bull—Howell Rees & Sons, Pilger, Neb.

Shorthorn junior champion bull—Maxwell Miller Cattle Co., Steamboat Springs, Colo.

Grand champion bull—Howell Rees & Sons.

Shorthorn senior champion cow—Lady Violet 8th 199786, Howell Rees & Sons, Pilger, Neb., 1.

Shorthorn junior champion heifer—Butterfly Lady 4698, Rapp Bros., St. Edward, Neb., 1.

Shorthorn grand champion cow or heifer—Lady Violet 8th 199786, Howell Rees & Sons, Pilger, Neb., champion; Butterfly Lady 514698, Rapp Bros., St. Edward, Neb., reserve champion.

Western shorthorn senior champion cow—Silver Blythesome 225138, Maxwell Miller Cattle Co., Steamboat Springs, Colo.

Western shorthorn junior champion heifer—Divide Susan 504776, Allen Cattle Co., Colorado Springs, Colo.

Western Shorthorn grand champion cow or heifer—Divide Susan 504776, Allen Cattle Co., Colorado Springs, Colo., champion; Silver Blythesome 225138, Maxwell Miller Cattle Co., Steamboat Springs, Colo., reserve champion.

Class No. 13—Shorthorn aged herd—Entry 189, Howell Rees & Sons, Pilger, Neb., 1; Maxwell Miller Cattle Co., Steamboat Springs, Colo., 2; R. G. Maxwell & Sons, Fort Collins, Colo., 3.

Class No. 30—Western Shorthorn aged herd—Maxwell Miller Cattle Co., Steamboat Springs, Colo., 1; R. G. Maxwell & Sons, Fort Collins, Colo., 2.

Class No. 1—Shorthorn aged bull—Maxwell Miller Cattle Co., 1; Samuel Ball, Wray, Colo., 2.

Class No. 2—Shorthorn bull, 2 years old and under 3—Howell Rees & Sons, Pilger, Neb., 1; D. Warnock & Sons, Loveland, Colo., 2; Rapp Bros., St. Edward, Neb., 3; J. M. Steward & Son, Red Cloud, Neb., 4.

Class No. 2—Shorthorn senior yearling bull—C. G. Gawthrop, Mancos, Colo., 1.

Class No. 4—Shorthorn yearling bull—Maxwell Miller Cattle Co., 1; Howell Rees & Sons, 2; W. A. Forsythe & Son, Greenwood, Mont., 3; K. F. Dietsch, Orleans, Neb., 4.

Class No. 18—Western Shorthorn aged bull—Maxwell Miller Cattle Co., 1; Samuel Ball, Wray, Colo., 2.

Class No. 19—Western Shorthorn bull, 2 years old and under 3—D. Warnock & Sons, 1; R. G. Maxwell, 2; George L. Foxton, Glendo, Wyo., 3; Gleason & Blazer, Kiowa, Colo., 4.

Class No. 20—Western Shorthorn senior yearling bull—C. G. Gawthorpe, Mancos, Colo., 1.

Class No. 21—Western Shorthorn junior yearling bull—Maxwell-Miller Cattle Co., 1; C. A. Hauf, Glendo, Wyo., 2; Allen Cattle Co., 3; D. Warnock & Sons, 4.

Class No. 6—Shorthorn junior bull calf—D. Warnock & Sons, Loveland, Colo., 1, 2 and 3; Rapp Bros., 4.

Class No. 7—Shorthorn aged cow—Howell Rees & Sons, 1 and 2; Maxwell-Miller Cattle Co., 3.

Class No. 8—Shorthorn cow, 2 years old and under 3—Howell Rees & Sons, 1; Maxwell-Miller Cattle Co., 2; R. G. Maxwell & Sons, 3.

Class No. 9—Shorthorn senior yearling heifer—Allen Cattle Co., 1; Colo. Agr. College, 2; Howell Rees & Sons, 3; Allen Cattle Co., 4.

Class No. 23—Western Shorthorn junior bull calf—D. Warnock & Sons, 1, 2 and 3; Maxwell-Miller Cattle Co., 4.

Class No. 24—Western Shorthorn aged cow—Maxwell-Miller Cattle Co., 1; R. G. Maxwell & Sons, 2.

Class No. 25—Western Shorthorn cow, 2 years old and under 3—Maxwell-Miller Cattle Co., 1; R. G. Maxwell & Sons, 2; Lillian M. Melburn, Elbert, Colo., 3.

Class No. 26—Western Shorthorn senior yearling heifer—Allen Cattle Co., 1; Colo. Agr. College, 2; Allen Cattle Co., 3; Maxwell-Miller Cattle Co., 4.

Class No. 16—Shorthorn, get-of-sire—Howell Rees & Sons, Pilger, Neb., 1; Howell Rees & Sons, 2; Warnock & Sons, 3; Allen Cattle Co., 4.

Class No. 33—Western Shorthorn, get-of-sire—D. Warnock & Sons, 1; Allen Cattle Co., 2; C. A. Hauf, Glendo, Wyo., 3; D. Warnock & Sons, 4.

Class No. 17—Shorthorn, produce of one dam—Howell Rees & Sons, Pilger, Neb., 1 and 2; Rapp Bros., St. Edward, Neb., 3; R. G. Maxwell & Sons, 4.

Class No. 34—Western Shorthorn, produce of one dam—G. Maxwell & Sons, 1; Allen Cattle Co., 2; Cornforth Live Stock Co., Elbert, Colo., 3; Lillian M. Melburn, Elbert, Colo., 4.

Class No. 35—Best Shorthorn bull calved after Sept. 1, 1916 (American Shorthorn Breeders' Assn. Special)—K. F. Dietsch, Orleans, Neb., 1; C. A. Melburn, Elbert, Colo., 2.

Class No. 36—Best heifer calf calved after Sept. 1, 1916 (American Shorthorn Breeders' Assn. Special)—Lillian M. Melburn, Elbert, Colo., 1; Gleason & Blazer, Kiowa, Colo., 2.

Class No. 11—Shorthorn senior heifer calf—Maxwell-Miller Cattle Co., 1; Howell Rees & Sons, 2 and 3; Rapp Bros., St. Edward, Neb., 4.

Class No. 28—Western Shorthorn senior heifer calf—Maxwell-Miller Cattle Co., 1; Allen Cattle Co., 2; C. A. Hauf, Glendo, Wyo., 3; R. G. Maxwell & Sons, 4.

Class No. 12—Shorthorn junior heifer calf—D. Warnock & Sons, 1; Allen Cattle Co., 2, Howell Rees & Sons, 3; D. Warnock & Sons, 4.

Class No. 29—Western Shorthorn junior heifer calf—D. Warnock & Sons, 1; Allen Cattle Co., 2; D. Warnock & Sons, 3; Cornforth Live Stock Co., Elbert, Colo., 4.

Class No. 14—Shorthorn young herd—Howell Rees & Sons, 1; Allen Cattle Co., 2; Rapp Bros., 3; D. Warnock & Sons, 4.

Class No. 31—Western Shorthorn young herd—Allen Cattle Co., 1; D. Warnock & Sons, 2; Cornforth Live Stock Co., 3; R. G. Maxwell & Sons, 4.

Class No. 15—Shorthorn calf herd—Howell Rees & Sons, 1; D. Warnock & Sons, 2; Allen Cattle Co., 3; Rapp Bros., 4.

Class No. 32—Western Shorthorn calf herd—D. Warnock & Sons, 1; Allen Cattle Co., 2; Cornforth Live Stock Co., 3; Gleason & Blazer, 4.

Class No. 10—Shorthorn junior yearling heifer—Rapp Bros., 1; Howell Rees & Sons, 2; W. A. Forsythe & Sons, Greenwood, Mont., 3; Allen Cattle Co., 4.

Class No. 27—Western Shorthorn junior yearling heifer—Allen Cattle Co., 1; Cornforth Live Stock Co., 2; D. Warnock & Sons, 3; Cornforth Live Stock Co., 4.

Galloway Cattle

Galloway senior champion bull—A. Carnot 41008, H. & G. Croft, Bluff City, Kan.

Galloway junior champion bull—Othello's Favorite 43713, C. E. Talley, Meade, Kan.

Galloway grand champion bull—A. Carnot 41008, H. & G. Croft, Bluff City, Kan., champion; Othello's Favorite 43713, C. E. Talley, Meade, Kan., reserve champion.

Galloway senior champion cow—Carlota of L. F. 39458, H. & G. Croft, Bluff City, Kan.

Galloway junior champion heifer—Silvia of Greenbush 43372, H. & G. Croft, Bluff City, Kan.

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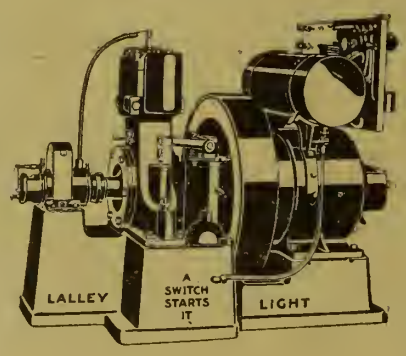

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Galloway grand champion cow or heifer—Carta of L. F. 39458, H. & G. Croft, Bluff City, an., champion; Silvia of Greenbush 43372, H. G. Croft, Bluff City, Kan., reserve champion.

Croft captured first in Galloway aged bull, nior bull calf, first and second; second and ird in junior bull calf; first and second in aged w; first in cow two years old and under three; st in senior yearling heifer; first in junior yearng heifer; first in senior heifer calf; first in nior heifer calf; first in young herd, in aged rd, in calf herd, in get-of-sire, and the three bbons in produce of dam.

F. E. Moore & Sons got first in Galloway junior arling bull; second in cow two years old and der three; second in junior heifer.

C. E. Talley of Meade, Kans., was first in Galway junior bull calf.

Aberdeen-Angus

Aberdeen-Angus senior champion bull—Coon reek Dodo 3d 175422, R. R. Lucore, Arriba, olo., champion; Quo Vadis 4th 221045, Sutton Porteous, Lawrence, Kan., reserve champion.

Aberdeen-Angus junior champion bull—Gay Lad eatherston 243369, Sutton & Porteous, Lawence, Kan., champion.

Aberdeen-Angus grand champion bull—Gay Lad eatherson 243369, Sutton & Porteous, Lawrence, an., champion; Coon Creek Dodo 3d 175422, R. Lucore, Arriba, Colo., reserve champion.

Aberdeen-Angus senior champion cow—Knollood Susie 164786, R. R. Lucore, Arriba, Colo.

Class No. 54—Aberdeen-Angus aged bull—R. Lucore, 1.

Class No. 55—Aberdeen-Angus bull, 2 years d and under 3—Sutton & Porteous, Lawrence, an., 1; Hadley Bros., Indianola, Neb., 2 and 3.

Class No. 56—Aberdeen-Angus senior yearling ull—Hadley Bros., Indianola, Neb., 1.

Class No. 57—Aberdeen-Angus junior yearling ull—Hadley Bros., Indianola, Neb., 1; R. R. ucore, 2; Hadley Bros., 4.

Class No. 58—Aberdeen-Angus senior bull calf —Sutton & Porteous, 1; D. D. Barr & Sons, Sanord, Colo., 2; Hadley Bros., 3; R. R. Lucore, 4.

Class No. 59—Junior bull calf, American Abereen-Angus Assn. Specials—J. W. McClung & on, Indianola, Neb., 1; Sutton & Porteous, 2; Hadley Bros., 3; R. R. Lucore, 4.

Class No. 60—Aberdeen-Angus aged cow—R. Lucore, 1; Hadley Bros., 2, 3 and 4.

Class No. 61—Aberdeen-Angus cow, 2 years ld and under 3—Hadley Bros., 1; R. R. Lucore, ; Hadley Bros., Indianola, Neb., 3 and 4.

Class No. 62—Aberdeen-Angus senior yearling eifer—Hadley Bros., 1.

Class No. 63—Aberdeen-Angus junior yearling eifer—R. R. Lucore, 1 and 2; Hadley Bros., 3 nd 4.

Class No. 64—Aberdeen-Angus senior heifer alf—Sutton & Porteous, 1; Hadley Bros., 2; R. Lucore, 3.

Class No. 65—Aberdeen-Angus junior heifer alf—Sutton & Porteous, 1; R. R. Lucore, 2; Hadley Bros., 3 and 4.

Class No. 66—Aberdeen-Angus aged herd— R. Lucore, 1; Hadley Bros., 2.

SHEEP AWARDS

Colorado Agricultural college entries took the ibbons in the Cotswold classes and also in Hampshire sheep, making a clean sweep of these lasses. Other sheep awards were as follows:

Leicester or Lincoln champion ram—King Bros., champion and reserve champion.

Class No. 10—Leicester or Lincoln yearling am—King Bros., Laramie, Wyo., 1 and 2.

Class No. 57—Yearling wether, medium wool r down type—A. J. Knollin, Soda Springs, Idaho, Colorado Agricultural College, 2 and 3.

Lamb, medium wool or down type—A. J. Knol, 1, 2 and 3.

Pen of five lambs, medium wool or down type— J. Knollin, 1.

Champion wether—A. J. Knollin, champion; lorado Agricultural College, reserve champion.

Champion lamb—A. J. Knollin, champion and erve champion.

In the Rambouillets, King Bros. of Laramie ok grand champion and reserve champion in am and ewe and the ribbons in all other classes this breed.

Shropshire Sheep

Shropshire champion ram—A. J. Knollin, champn; Spencer Penrose, Colorado Springs, Colo., erve champion.

Shropshire champion ewe—A. J. Knollin, champn and reserve champion.

Class No. 33—Shropshire aged ram—A. J. Knollin, Soda Springs, Idaho, 1.

Class No. 34—Shropshire yearling ram—Spenr Penrose, Colorado Springs, Colo.; A. J. Knollin, 2 and 3.

Class No. 35—Shropshire ram lamb—A. J. Knollin, 1, 2 and 3.

Class No. 36—Shropshire yearling ewe—A. J. Knollin, 1 and 2; Colo. Agr. College, Fort Collins, Colo., 3.

Class No. 37—Shropshire ewe lamb—A. J. nollin, 1 and 2.

Class No. 38—Shropshire breeder's pen of ambs—A. J. Knollin, 1.

Class No. 39—Shropshire, get of sire—A. J. nollin, 1.

Class No. 40—Shropshire graded flock—A. J. nollin, 1.

Class No. 65—Carload, 50, fat ewes, any age Great Western Sugar Co., Denver, Colo., 1, and 3.

Class No. 66—Carload, 50, fat lambs fed in rthern Colorado—Mrs. J. C. Hitt, Sr., Mead, olo., 1; Orlando Hitt, Mead, Colo., 2; James Watson, Fort Collins, Colo., 3.

Champion carload fat sheep—A. J. Knollin, oda Springs, Idaho, champion; Mrs. J. C. Hitt, r., Mead, Colo., reserve champion.

Best carload Colorado-fed lambs—Mrs. J. C. itt, Sr., Mead, Colo., 1.

Class No. 63—Carload, 50, fat yearling wethra—W. Borson, Fort Collins, Colo., 1; Wm. ndemeier, Jr., Fort Collins, Colo., 2.

Class No. 64—Carload, 50, fat lambs—A. J. Knollin, Soda Springs, Idaho, 1; Mrs. J. C. Hitt, Mead, Colo., 2; Orlando Hitt, Mead, Colo., 3.

Veterinary Advice

Ans. to J. L. S.:

In regard to your steer, our veterinary department advises that it is difficult to prescribe for the trouble unless the cause is known. In many cases the trouble you speak of it caused by cattle eating very acrid or bitter plants. In other cases it is caused by gravel in the bladder, or sometimes by the rupture of a small blood vessel in the kidneys thru strain of some kind. A remedy suggested is chloride of iron 8 ounces, mixed with an equal part of water. Give two tablespoonfuls three times a day in half a pint of water. If this does not relieve the condition in a few days call a veterinarian.

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Increased food production is the crying need of the country. More corn, wheat, oats, rye barley—more land under cultivation—more productive labor from horses, machinery and the men on the farms. Efficiency and greater output are not only patriotic duties, but they insure increased profits. And the

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I have got my Staude Mak-a-Tractor belt power attachment at work and it sure is great for sawing wood and grinding feed. Sawed our 40 cords in one day, some as large as 14 inches in diameter and all three men could lift. I say it is great.
Glenn C. Wood, Limeville, Ohio.

I plowed 190 acres with my Staude at a cost of less than 50 cents an acre. My car is just as good as ever and the engine don't heat. I used about one quart of water a day. I plowed 5 acres a day, where I could only plow 5 acres with 5 horses on the gang. It does the work of six horses and not four.
J. S. Welter, Grafton, N. D.

I cut all my wheat, 450 acres, with a Staude Mak-a-Tractor and am plowing 10 acres a day at the present time with a 14 inch gang, and don't have any trouble with it heating and it doesn' damage the car as much as running on the road.
A. Christophorson, Flaxville, Mont.

My Staude Mak-a-Tractor pulled a 14-disc grain drill over 200 acres of newly broken prairie sod, pulled a 3-section harrow over 200 acres and the same drill over 450 acres more land—all newly broken sod. I averaged 2 1/2 acres per hour with the drill. It has proven absolutely satisfactory.
Carl F. Erreho, Garden City, Kan.

I have pulled two 16-inch plows in sod for five hours and 4 tons on the road for eight miles with my Staude Mak-a-Tractor and the engine never boiled. I don't see that it hurts the car and it will do all the company claims.
C. F. HARRIS, Orange Lake, N.Y.

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Name and Model of My Car

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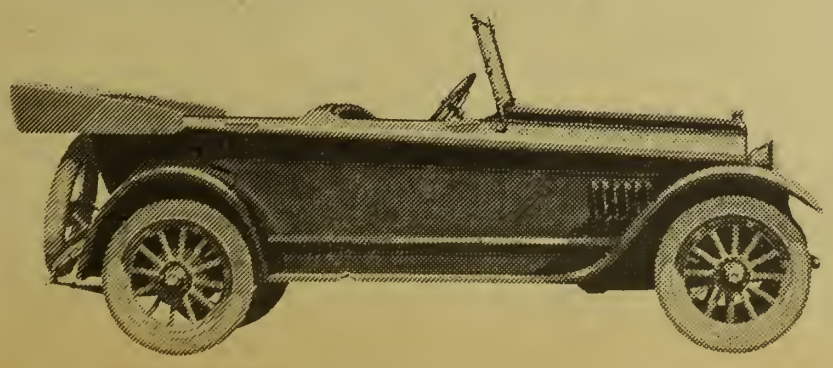

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Live Pork at 50 Cents a Pound

The accompanying cut shows the grand champion barrow of the National Western Stock show and Mr. D. Schilling, owner of the J. O. D. ranch, Aroya, Colo., where this animal was bred. Fifty dollars per cwt. was the price paid for this hog in the auction sale. This is the highest price ever paid for fat pork at this and probably at any market in the world. The animal weighed 340 pounds, was 9 months old, and brought the owner $170. It broke the record for dressing percentage, the purchasers, the Colorado Packing and Provision company, reporting that it dressed out 91 per cent. This exceeds the record of any porker ever slaughtered at the Denver yards, if not in the entire country. The average fat hog dresses out about 78 per cent. This animal was fattened with a balanced ration, which included Colorado corn and Armour's high protein meat meal.

Grand Champion Barrow and Its Owner

SWINE AWARDS

Duroc-Jersey Breeding Classes

Senior champion boar, J. O. D. Ranch, Aroyo, Colo.

Junior champion boar, Caldwell Martin, Littleton, Colo.

Grand champion boar, Caldwell Martin.

Reserve champion boar, J. O. D. Ranch.

Senior champion sow, F. L. Crow, Hutchinson, Kans.

Junior champion sow, Caldwell Martin.

Grand champion sow, F. L. Crow.

Reserve champion sow, Caldwell Martin.

Class No. 33—Boar, 2 years old and over—C. F. Burke, Rocky Ford, 1; J. O. D. Ranch, 2; F. L. Crow, 3; J. B. Benedict, Littleton, Colo., 4.

Class No. 34—Boar, 18 months and under 2 years—J. O. D. Ranch, 1; F. L. Crow, 2; C. F. Burke, 3; J. W. Brauer, Colorado Springs, 4.

Class No. 35—1 year and under 18 months—J. B. Benedict, 1; Colorado Agricultural College, 2; F. L. Crow, 3; J. B. Benedict, 4.

Class No. 36—Boar, 6 months and under 1 year—Caldwell Martin, 1; C. F. Burke, 2; Caldwell Martin, 3; F. L. Crowe, 4.

Class No. 37—Boar, under 6 months—Colorado Agricultural College, 1, 2, 3 and 4.

Class No. 38—Sow, 2 years old and over—Caldwell Martin, 1; J. O. D. Ranch, 2; C. F. Burke. 3; F. L. Crow, 4.

Class No. 39—Sow, 18 months and under 2 years—F. L. Crow, 1 and 2; J. B. Benedict, 3; Colorado Agricultural College, 4.

Class No. 40—Sow, 1 year and under 18 months—F. L. Crow, 1 and 2; J. B. Benedict, 3 and 4.

Class No. 41—Sow, 6 months and under 1 year—Caldwell Martin, 1 and 2; Colorado Agricultural College, 3; C. F. Burke, 4.

Class No. 42—Sow, under 6 months—Colorado Agricultural College, 1, 2, 3 and 4.

Class No. 43—Boar and three sows over 1 year—F. L. Crow, 1; J. O. D. Ranch, 2; C. F. Burke, 3.

Class No. 44—Boar and three sows, over 1 year, bred by exhibitor—C. F. Burke, 1; F. L. Crow, 2; Colorado Agricultural College, 3.

Class No. 45—Boar and three sows under 1 year—Caldwell Martin, 1; Colorado Agricultural College, 2; C. F. Burke, 3.

Class No. 46—Boar and three sows under 1 year, bred by exhibitor—Caldwell Martin, 1; Colorado Agricultural College, 2; C. F. Burke, 3.

Class No. 47—Four animals, either sex, any age, get of one sire—Caldwell Martin, 1; Colorado Agricultural College, 2; F. L. Crow, 3.

Class No. 48—Four animals, either sex, any age, produce of one sow—Caldwell Martin, 1; Colorado Agricultural College, 2; F. L. Crow, 3.

Poland China Swine Breeding Classes

Senior champion boar, Colorado Agricultural College.

Junior champion boar, E. H. Allan, Boulder, Colo.

Grand champion boar, Colorado Agricultural College.

Senior champion sow, Colorado Agricultural College.

Junior champion sow, Colorado Agricultural College.

Grand champion sow, Colorado Agricultural College.

Class No. 17—Boar, 2 years old and over—Colorado Agricultural College, 1; O. H. Sholes & Son, Holyoke, Colo., 2; E. H. Allan, Boulder, 3.

Class No. 18—Boar, 18 months and under 2 years—Eleck Baldwin, Dickens, Neb., 1; Colorado Agricultural College, 2.

Class No. 20—Boar, 6 months and under 1 year—E. H. Allan, 1; A. D. McGillvray, Boulder, Colo., 2 and 3.

Class No. 21—Boar, under 6 months—A. D. McGillvray, 1; Colorado Agricultural College, 2 and 3.

Class No. 22—Sow, 2 years old and over—A. D. McGillvray, 1.

Class No. 23—Sow, 18 months and under 2 years—Eleck Baldwin, 1 and 2; Colorado Agricultural College, 3.

Class No. 24—Sow, 1 year and under 18 months—Colorado Agricultural College, 1; A. D. McGillvray, 2; Colorado Agricultural College 3.

Class No. 25—Sow, 6 months and under 1 year—Colorado Agricultural College, 1 and 2; Eleck Baldwin, 3.

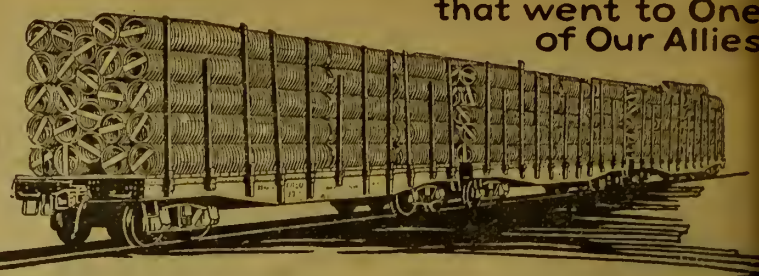
Class No. 26—Sow, under 6 months—Colorado Agricultural College, 1, 2 and 3.

Class No. 27—Boar and 3 sows over 1 year—Eleck Baldwin, 1; Colorado Agricultural College, 2.

Class No. 29—Boar and 3 sows under 1 year—Colorado Agricultural College, 1 and 2; A. D. McGillvray, 3.

Class No. 30—Boar and 3 sows under 1 year, bred by exhibitor—Colorado Agricultural College, 1 and 2; A. D. McGillvray, 3.

A Load of Culverts that went to One of Our Allies



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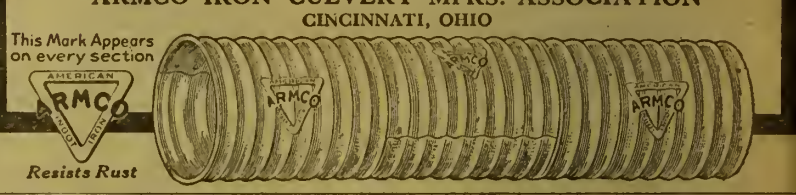

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Class No. 31—Four animals, either sex, any age, get of one sire—Colorado Agricultural College, 1; A. D. McGillvray, 2; Colorado Agricultural College, 3.

Class No. 32—Four animals, either sex, any age, produce of one sow—Colorado Agricultural College, 1; A. D. McGillvray, 2; Colorado Agricultural College, 3.

Berkshire Swine, Breeding Classes

Senior champion boar, C. W. Henry, Greeley, Colo.

Junior champion boar, Sutton & Porteous, Lawrence, Kans.

Grand champion boar, C. W. Henry.

Senior champion sow, Sutton & Porteous.

Junior champion sow, C. W. Henry.

Grand champion sow, Sutton & Porteous.

Class No. 1—Boar, 2 years old and over—C. W. Henry, Greeley, 1; George W. Baker, Littleton, 2.

Class No. 2—Boar, 18 months and under 2 years—Sutton & Porteous, Lawrence, Kans., 1.

Class No. 3—Boar, 1 year and under 18 months—Sutton & Porteous, 1; George W. Baker, 2.

Class No. 4—Boar, 6 months and under 1 year—Sutton & Porteous, 1; C. W. Henry, 2; Colorado Agricultural College, 3.

Class No. 5—Boar, under 6 months—C. W. Henry, 1; Sutton & Porteous, 2 and 3.

Class No. 6—Sow, 2 years old and over—C. W. Henry, 1 and 2; Colorado Agricultural College, 3.

Class No. 7—Sow, 18 months and under 2 years—Colorado Agricultural College, 1; Sutton & Porteous, 2.

Class No. 8—Sow, 1 year and under 18 months—Sutton & Porteous, 1; C. W. Henry, 2; Colorado Agricultural College, 3.

Class No. 9—Sow, 6 months and under 1 year—C. W. Henry, 1; Sutton & Porteous, 2; C. W. Henry, 3.

Class No. 10—Sow, under 6 months—C. W. Henry, 1; Sutton & Porteous, 2 and 3.

Class No. 11—Boar and 3 sows over 1 year—C. W. Henry, 1; Sutton & Porteous, 2.

Class No. 12—Boar and 3 sows over 1 year, bred by exhibitor—C. W. Henry, 1; Sutton & Porteous, 2.

Class No. 13—Boar and 3 sows, under 1 year—C. W. Henry, 1; Sutton & Porteous, 2; C. W. Henry, 3.

The Principal's Helen and Her Prize Winning Litter

Class No. 14—Boar and 3 sows under 1 year, bred by exhibitor—C. W. Henry, 1; Sutton & Porteous, 2; C. W. Henry 3.

Class No. 15—Four animals, either sex, any age, get of one sire—Sutton & Porteous, 1; C. W. Henry, 2; Colorado Agricultural College, 3.

Class No. 16—Four animals, either sex, any age, produce of one sow—Sutton & Porteous, 1; C. W. Henry, 2 and 3.

The Fat Hogs

Grand champion barrow—J. O. D. Ranch, Aroya, Colo., champion; Univ. of Neb., Lincoln, Neb., reserve champion.

Class No. 55—Duroc-Jersey barrow weighing 275 pounds and under 350 pounds—Univ. of Neb., Lincoln, Neb., 1; F. L. Crow, Hutchinson, Kan., 2.

Class No. 56—Duroc-Jersey barrow weighing 225 pounds and under 275 pounds—Colorado Agricultural College, 1; F. L. Crow, 2 and 3.

Class No. 57—Duroc-Jersey barrow weighing 190 pounds and under 225 pounds—F. L. Crow, Hutchinson, Kan., 1, 2 and 3.

Duroc-Jersey champion barrow—Univ. of Neb., champion; Colorado Agricultural College, reserve champion.

Champion Duroc-Jersey barrow (Colo. Packing & Provision Co. Special)—Univ. of Neb., Lincoln, Neb., champion.

Class No. 51—Berkshire barrow, weighing 190 pounds and under 225 pounds—C. W. Henry, Greeley, Colo., 1; Colorado Agricultural College, Fort Collins, Colo., 2.

Berkshire champion barrow—C. W. Henry, champion; Colorado Agricultural College, reserve champion.

Champion Berkshire barrow (Colo. Packing & Provision Co. Special)—C. W. Henry, champion.

Class No. 52—Poland-China barrow weighing 275 pounds and under 350 pounds—O. J. Brownfield, Cozad, Neb., 1; E. H. Allan, Boulder, Colo., 2.

Class No. 53—Poland-China barrow weighing 225 pounds and under 275 pounds—A. J. Brownfield, 1.

Class No. 54—Poland-China barrow weighing 190 pounds and under 225 pounds—Univ. of Neb., Lincoln, Neb., 1; O. J. Brownfield, 3.

Poland-China champion barrow—O. J. Brownfield, champion; Univ. of Neb., Lincoln, Neb., reserve champion.

Champion Poland-China barrow (Colo. Packing & Provision Co. Special)—O. J. Brownfield, champion.

Class No. 58—Grade or cross-bred barrow weighing 275 pounds and under 350 pounds—J. O. D. Ranch, Aroya, Colo., 1; R. H. Allan, Boulder, Colo., 2; Univ. of Neb., 3.

Class No. 59—Grade or cross-bred barrow weighing 225 pounds and under 275 pounds—Univ. of Neb., 1; R. G. Maxwell & Sons, Fort Collins, Colo., 2; Univ. of Neb., 3.

Class No. 60—Grade or cross-bred barrow weighing 190 pounds and under 225 pounds—Majestic Sunbeam Farm, Wellington, Colo., 1.

Grade or cross-bred champion barrow—J. O. D. Ranch, champion; Univ. of Neb., reserve champion.

Champion grade or cross-bred barrow (Colo. Packing & Provision Co. Special)—J. O. D. Ranch, champion.

Best grade or cross-bred barrow shown by a Colorado or Wyoming exhibitor (Joslin Dry Goods Co. Special)—J. O. D. Ranch, champion.

Class No. 61—Carload, 25 head, heavy hogs, each weighing 260 pounds and under 300 pounds—Northern Colorado Development Co., Denver, Colo., 1; American Beet Sugar Co., Rocky Ford, Colo., 2; D. E. Couchman, Lyons, Neb., 3.

Class No. 62—Carload, 25 head, packers' hogs, each weighing 220 pounds and under 240 pounds—Emil Pauls, Mattison, Colo., 1; Majestic Sunbeam Ranch, Wellington, Colo., 2; American Beet Sugar Co., 3.

Class No. 63—Carload, 25 head, bacon type hogs, each weighing 175 pounds and under 200 pounds—Northern Colorado Development Co., 1; American Beet Sugar Co., 2; Kilpatrick Bros. Co., Beatrice, Neb., 3.

Champion carload of swine—Poland-China, Northern Colorado Development Co., champion; Duroc-Jersey, Emil Pauls, Mattison, Colo., reserve champion.

Hampshire Swine

In Hampshire swine the championships for boar and sow went to E. N. Manley of Lyons, Neb., who was first in nearly all classes, but divided honors in a few classes with the University of Nebraska. The university took the championship and reserve championship in Hampshire barrows and was first in barrow classes.

Martin Gets 21 Premiums

The accompanying illustration shows The Principal's Helen and her litter, photographed in March, 1917, on Edgemoor Farm, at Littleton, Colo. Mr. Caldwell Martin, owner of the farm and herd of Duroc Jersey swine, has the following list of 21 winnings to his credit at the National Western Stock Show:

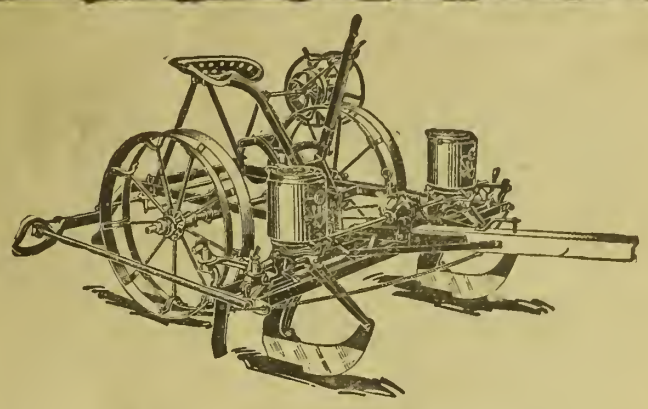
Grand champion boar; junior champion boar, junior champion sow, reserve champion sow, first on aged sow, first on under year boar, third on under year boar, fifth on under six months boar, seventh on under six months boar, first on under year sow, second on under year sow, fifth on under year sow, sixth on under year sow, first on under year herd, first on under year herd bred by exhibitor, first on get of sire, first on produce of dam, first in the American Duroc Jersey Swine Breeder's association specials for best under year boar, best under year sow, and best under year herd.

The first under year boar, which was also junior and grand champion, was Cherry Chief of Edgemoor by Eminent Chief, by Cherry Chief; dam, The Principal's Helen by The Principal 4th. The sire of Cherry Chief of Edgemoor was first prize senior yearling boar at the Illinois State Fair in 1916 and his dam was junior champion sow at the Illinois State Fair the same year. Three full sisters of Cherry Chief of Edgemoor from the same litter were second, fifth and sixth under year sows. And they together with the boar won first as get of sire and first as produce of dam.

Cherry Chief of Edgemoor also headed the first prize under year herd and the first prize under year herd bred by exhibitor. The junior champion sow shown was Lucy Wonder of Edgemoor, sired by Investor, one of the best-known boars in the northwest, dam by Champion High Model.

The first aged sow, Miss Crimson 2nd, is a granddaughter of Defender. She was the largest Duroc sow at the show and was probably the largest sow of any breed exhibited at the show. She weighs about 800 pounds when in good flesh. Miss Crimson 2nd has an enviable show record, being first prize junior yearling sow at the Iowa State Fair in 1916, third prize senior yearling sow and one of the first prize aged herd at the National Western Stock Show in 1917 as well as first aged sow at the show this year.

The illustration shows the litter which won first on get of sire, first on produce of dam, and from this litter came the grand champion boar and three of the prize-winning under year sows. The picture is interesting in that it shows what can be done in the production of pork with purebred Durocs in the space of a few short months.



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These machines plant corn accurately, whether used with edge drop, flat drop, or full hill drop plates; whether the corn is checked or drilled. The drop clutch can be changed, while the planter is working, to drop 2, 3, or 4 kernels to a hill. The tongue is easily adjustable to the height of the horses. A handy foot drop lever makes head-row planting easy.

When you look over the **International** or **C. B. & Q.** planter, don't miss the automatic marker, a handy feature that saves a lot of work and time. There are fertilizer attachments if you want them, combination pea and corn-planting hoppers, open wheels or closed—your planter will be equipped just as you want it. You can plant rows 28 to 48 inches wide by 2-inch adjustments, with four distances between hills.

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(By A. T. S.)

YOU'VE gone record crazy. What this breed needs is outstanding individuals of merit. I go all over the country for auctions like this and I've got so I'm ashamed to face some of the stuff that is offered for sale. Now here are just what you dairymen need. Bulls that have the breeding and that are first-class individuals of the breed. You people in Colorado send your money back east by mail and pay a lot for bulls that are not as good as these offered to you in the sale ring today. You like them better when you buy them far away."

This is the way R. E. Haeger of Algonquin, Ill., "went after" the dairy farmers who attended the auction sale of registered Holstein-Friesian cattle in the arena of the National Western Stock Show January 25. The breeders contributing to the sale were M. E. Penrose, Hall Bros., R. G. Douglas, Ralph Eggleston and the Colorado Agricultural College. The average price was about $300 per head, the total sale aggregating $7,000, exclusive of the Red Cross calves, which netted that worthy cause $1,100.

The consignment included four females and three males of Hall Bros., of the Western Holstein Farms, Denver; seven females and three males by M. E. Penrose, Denver; three females by R. Eggleston, Mount Morrison; two by Mrs. R. G. Douglas, Kendrick, Colo., and a male and two females by the Agricultural College.

Penrose hit the top sale price of $500 twice; first with Arapahoe Johanna, a six-year-old cow and the first Colorado-bred cow to make a 30-pound record. She was sired by a grandson of Jolie Johanna, the grand champion of the St. Louis world's fair. She is in calf to Western Ascalon Champion Boy and she has a butter record of 30.91 and a milk record of 411.60, so the buyer got "some cow" for his money. The second topper was a young bull, calved May 20th, 1917, who was junior champion at the show and well worth the $500 paid for him.

Hall Brothers, among other notable offerings, put in the Red Cross calf, Western Johanna Chief, that sold for $700 to Dr. Hubert Work, the Pueblo breeder, who put him back into the ring, plus a heifer donated during the bidding by P. K. Hudspeth of Pueblo. The latter was a granddaughter of Ragapple Korndyke 8th, lately born and not in the show. The two calves were then again offered and sold to G. H. Wilcox of Fort Collins for $400. Thereby Wilcox got a bargain and the Red Cross has the Holstein breeders to thank for a contribution of $1,100.

The Hall Brothers calf is a grandson of Dutchland Hengerveld Ascalon, the biggest milk producer west of the Missouri river.

While prices received were not high, the breeders were satisfied with the result of the sale, mainly because it will disseminate good blood. Other dairy breeds may follow suit at the next show, profiting by the experience of the beef breeders who find the National Western sales their biggest and best market.

The dairy show was both bigger and better than a year ago. As usual, the Holsteins were greatly in the majority. Colorado is recognized as a "black and white" section among dairymen and the growth of that breed has been phenomenal here in the last five years. For a long time the Holsteins were exclusively a city dairyman's cow, in this section and they were used in domestic milk production, while cream for commercial butter came principally from range cows. The condensaries have given the Holsteins their greatest impetus. In the last few years herd after herd has been purchased in Wisconsin, Ohio and other states and placed mostly on farms in the irrigated districts in the Arkansas and Platte valleys. A few have gone to dry land farms where the demand for good milk producers is just opening. Several carloads have gone to the Arkansas divide country in El Paso and Douglas counties, some to the San Juan basin in southwestern Colorado. The home supply has come nowhere near meeting the demand and local breeders have been constantly sold right up to capacity.

Guernsey and Jersey breeders also report an increasing demand. There was only one Guernsey herd in the show this year, the famous Parker

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THERE are three very good reasons for the immediate purchase of an up-to-date De Laval Cream Separator.

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In the third place, railway delays are such that you can't depend upon quick delivery, and if you don't order your De Laval now there is no telling when you can get it. Moreover, the supply of labor and material is uncertain and all last year De Laval deliveries were nearly two months behind.

Again, De Laval prices have advanced very little thus far, but must go higher if present industrial conditions continue, let alone become more difficult. Present prices hold good until March 1st only.

There was never a time when the immediate purchase of a latest improved De Laval Cream Separator was more important to everyone separating cream, or when it could less wisely be delayed.

See the nearest De Laval agent at once. Arrange to try a new De Laval machine for your own satisfaction. See for yourself just what it will do for you. If you don't know the nearest agent simply address the nearest General Office.

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America's original Stock Tonic and Conditioner. It corrects common live stock troubles in a natural way. Sharpens the appetite—assists digestion and assimilation—regulates the bowels—tones up the whole system—makes rich, red blood—assures 100% feed efficiency—prevents loss and swells profits.

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herd from Greeley, which is as good as the best from an individual merit and record standpoint.

The Jersey division was about the same as last year. A. M. McClenahan of Greeley had 12 animals in the show. His winnings included senior and grand champion cow and first and second on aged cow. An accident to his herd sire kept that distinguished individual out of the show this year. This was regrettable, as the presence of the McClenahan bull would have added life to the competition.

The Hinman Silo company showed 12 head in thirteen classes, getting grand champion with Maggies' Shy Duke, the bull that held the championship also in 1917; eight firsts, four seconds, three thirds, three championships and two reserve championships; the special for best Jersey exhibit and special for best aged herd and best young herd; also the American Jersey Cattle Club's gold medal for grand champion bull.

The Morford Jersey herd of Golden also showed some fine individuals that were in the money.

The milking Shorthorns were represented by two good herds, the State Industrial School of Golden and the Pine Valley herd of Colorado Springs. The Industrial School herd included a cow that is considered the best Shorthorn milker in the west.

The Holsteins included Donley & Simpson's Avoca Lodge herd, from Mount Morrison. They are owners of Korndyke Pierterje Colantha (96261), who has one sister that produced 46.7 pounds of butter in 7 days and five sisters that produced over 37 pounds and whose dam has two daughters under 5 years that produced over 30 pounds in 7 days.

The Western Holstein Farms had 15 animals in the show, every one of their own breeding—truly an all-Colorado herd—and every animal was in the money. They are the owners of Dutchland Hengerveld Ascalon, whose record is 1,265 pounds of butter from 26,480 pounds of milk. She wasn't in the show as she is not a native, but her son and daughter did credit to their ancestry in the show ring.

Others of the black and white breed were Spencer Penrose's famous Columbine herd from Colorado Springs and Lee Gaiser's Chicago Dairy herd of Denver.

There was some disappointment because the Western Slope was not represented, but uncertain transportation and weather conditions were responsible. There are some splendid Jersey and Holstein herds on the other side of the range that ought to be at the National Western in competition with the Eastern Slope breeders.

DAIRY CATTLE

Holstein-Friesian

Holstein-Friesian senior champion bull—Korndyke Pieterje Colantha 96261, Donley & Simpson, Mt. Morrison, Colo.

Holstein-Friesian junior champion bull—M. E. Penrose, Denver, Colo., 1.

Holstein-Friesian grand champion bull—Korndyke Pieterje Colantha 96261—Donley & Simpson, champion; M. E. Penrose, reserve champion.

Holstein-Friesian senior champion cow—Duchess Karen Venezuela 212246, Lee Gaiser, Denver, Colo., 1.

Holstein-Friesian junior champion heifer—Western Ascalon 318203, Hall Bros., 1.

Holstein-Friesian grand champion cow or heifer—Duchess Karen Venezuela 212246, Lee Gaiser, champion; Western Ascalon 318203, Hall Bros., Denver, Colo., reserve champion.

Grand champion Holstein-Friesian cow or heifer (Great Western Sugar Co. Special)—Duchess Karen Venezuela 212246, Lee Gaiser.

Best aged herd of Holstein-Friesian cattle (Great Western Sugar Co. Special)—Donley & Simpson.

Best aged herd of Holstein-Friesian cattle (Windsor Farm Dairy Special)—Donley & Simpson.

Class No. 116—Holstein-Friesian junior heifer calf—Spencer Penrose, Colorado Springs, Colo., 1; Donley & Simpson, 2; Hall Bros., Denver, Colo., 3.

Class No. 117—Holstein-Friesian aged herd—Donley & Simpson, 1; Hall Bros., 2; Spencer Penrose, 3.

Class No. 118—Holstein-Friesian young herd—Hall Bros., 1; Donley & Simpson, 2.

Class No. 119—Holstein-Friesian calf herd—Hall Bros., 1; Donley & Simpson, 2; Spencer Penrose, 3; Donley & Simpson, 4.

Class No. 120—Holstein-Friesian, get of one sire, Donley & Simpson, 1; Spencer Penrose, 2; Hall Bros., 3.

Class No. 121—Holstein-Friesian, produce of one dam—Hall Bros., 1; Donley & Simpson, 2; Hall Bros., 3.

Class No. 113—Holstein-Friesian senior yearling heifer—Hall Bros., 1; Donley & Simpson, 2.

Class No. 114—Holstein-Friesian junior yearling heifer—Donley & Simpson, 1; Spencer Penrose, 2; Hall Bros., Denver, Colo., 3.

Class No. 115—Holstein-Friesian senior heifer calf—Donley & Simpson, Mt. Morrison, Colo., 1; Hall Bros., 2; Donley & Simpson, 3.

Class No. 105—Holstein-Friesian aged bull—Donley & Simpson, 1; Hall Bros., 2; M. E. Penrose, 3.

Class No. 106—Holstein-Friesian bull, 2 years old and under 3—Donley & Simpson, 1.

Class No. 107—Holstein-Friesian senior yearling bull—J. J. Kalberer, Broomfield, Colo., 1; R. Eggleston, Mt. Morrison, Colo., 2.

Class No. 108—Holstein-Friesian junior yearling bull—J. F. Little, Berthoud, Colo., 1; Spencer Penrose, 2.

Class No. 109—Holstein-Friesian senior bull calf—Hall Bros., 1; Donley & Simpson, 2 and 3.

Class No. 110—Holstein-Friesian junior bull calf—M. E. Penrose. 1; Hall Bros., 2 and 3.

Class No. 111—Holstein-Friesian aged cow—Lee Gaiser, Denver, Colo., 1; Spencer Penrose, 2; Donley & Simpson, 3.

Class No. 112—Holstein-Friesian cow, 2 years old and under 3—Spencer Penrose, 1; Donley & Simpson, 2; Hall Bros., 3.

The Jerseys

Jersey senior champion bull—The Hinman Silo Co.

Jersey junior champion bull—Hinman Silo Co.

Jersey grand champion bull—Hinman Silo Co., champion; The Hinman Silo Co., reserve champion.

Jersey senior champion cow—A. M. McClenahan, Greeley, Colo., 1.

Jersey junior champion heifer—The Hinman Silo Co.

Jersey grand champion cow or heifer—Jolly Oxford Buttermilk 313779, A. M. McClenahan, champion; Bosnian's Eminent Belle, 361720, Hinman Silo Co., reserve champion.

Class No. 100—Jersey aged herd—Hinman Silo Co., 1; J. D. Pancake, Berthoud, Colo., 2.

Class No. 101—Jersey young herd—Hinman Silo Co., 1; A. M. McClenahan, 2.

Class No. 102—Jersey calf herd—Entry 998, A. M. McClenahan, 1; The Hinman Silo Co., 2.

Class No. 103—Jersey, get of one sire—A. M. McClenahan, Greeley, Colo., 1.

Class No. 104—Jersey, produce of one dam—Hinman Silo Co., 1; J. D. Pancake, 2.

Class "C"—Produce of one cow, two animals over six months old, at least one to be female (American Jersey Cattle Club Specials)—Hinman Silo Co., 1; J. D. Pancake, Berthoud, Colo., 2.

Class No. 98—Jersey senior heifer calf—A. M. McClenahan, Greeley, Colo., 1; J. D. Pancake, Berthoud, Colo., 2.

Class No. 99—Jersey junior heifer calf—Hinman Silo Co., Denver, Colo., 1; A. M. McClenahan, Greeley, Colo., 2 and 3.

Turn to Page 21

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In 1915	86
In 1916	112
In 1917	226

Only shortage of labor and material prevented our building 300 in 1917. We have the experience, labor and material to build 350 silos this season. At the rate they are going we will be sold out before June 1st, and more are sure to be wanted. If you want the silo proven the best by actual service you should get your order in early.

Tile silos are fire-proof, frost-proof, permanent and good-looking. We build them right and stand behind our construction.

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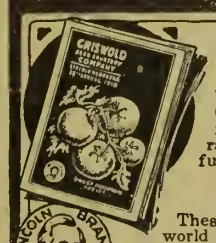

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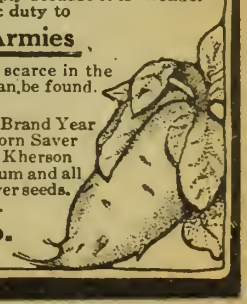

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The Grange

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Continuation of report of annual session of Colorado State Grange:

State Master John Morris had a signal honor conferred upon him when he was chosen for his sixth consecutive term in that capacity. Thus he is beginning his twelfth year of faithful and unselfish service, enjoying the confidence of the members all over the state, whose representatives spoke with unanimous voice at the recent session. Others of the officers were re-elected without contest or friction, the proceedings of the entire session being characterized by harmony and the spirit of co-operation for which the Grange stands. Following is a complete list of officers now serving the state organization:

John Morris, Master, Golden.
Robert J. Altig, Overseer, Boulder.
C. W. Swayze, Lecturer, Stock Yards Station, Denver.
J. F. Girardot, Steward, Aurora.
W. H. Bailer, Assistant Steward, Littleton.
P. Ricketts, Chaplain, Fort Collins.
K. S. Rhea, Treasurer, Golden.
Otis Scruggs, Secretary, Denver.
John J. G. Adam, Gate Keeper, Arapahoe county.
Mrs. Sarah Morris, Ceres, Golden.
Mrs. M. C. Everett, Pomona, Edgewater.
Mrs. Mary S. Herring, Flora, La Porte.
Mrs. Florence Bullard, Lady Assistant Steward, Laird.

Executive Committee: J. F. Girardot, chairman; R. J. Altig, Boulder, and T. M. Reynolds, Montrose.

State Grange Business Agent, Otis Scruggs, 415 Charles building, Denver.

Following are extracts from the annual address of the State Master that are commended for consideration to all members of the organization:

Since we last met our nation has entered the world war and as an inevitable result the year ahead, for which you are to legislate, is full of greater possibilities for good or evil, and your responsibilities as spokesmen for the rural half of our population are greater than ever before. How long this war is to last, how many of our young men are to die on the battlefields, or go thru life maimed or shattered in health, how many homes shall be made desolate, how many women shall moan in angulsh for the loss of a husband's guarding care, how far the cause of democracy shall be advanced or retarded, God alone knows. But it is for you, brothers and sisters, to face the situation solemnly with a higher resolution than ever before of the greatness of your responsibility and the magnitude of your task.

War finance: To place the burdens evenly on all, we cannot refrain in this connection from calling attention to the fact that the recent session of Congress placed on exemption on the salary of government employes. There may be some justification for the exemption of government clerks who draw but a nominal wage, but our Congressmen and United States senators who voted heavy taxes on the rest of us and then, at the same time allowed a section to creep into the bill which will exempt their own salaries and that of higher government officials, acted in a manner that was not only unjust but unpatriotic as well.

How shall the cost of the war be met? To me it seems very clear. We should insist with all our might that the war be paid for as we go and that not a single dollar shall be left for our children or our children's children to pay until the last dollar of accumulated wealth has been exhausted. * * *

The American farmer is called upon to feed the nations of the world, and I do not need to say at a meeting such as this, that the farmers of the state, practically without exception, have responded and will respond to the best of their ability. But there is a responsibility on the part of the government fully as great as that upon the farmer, in order that the work of feeding the nation shall be as thoro and ample as the potential producing capacity of this country warrants the nations to expect, and in order that our farmers, in responding to the demand, shall not suffer from a glutted market if the war should come to an end. This would mean disaster, if not ruin, to the great majority of our farmers, and it is only common sense in preparedness in this great world-wide emergency, for Congress to remove the fear of this disaster by insuring them against this possibility by guaranteeing a minimum price. The miller can be protected by guaranteeing that his price shall not exceed the farmer's price, plus a reasonable handling profit, and the consumer can be protected by regulating the price of flour in the same way. By the nation buying thru a single agency they will be able to get their fair quota of a surplus for export at the farmer's price, plus the cost of shipment, which, thru the Council of Defense and its subordinate councils, it will be able to control, by simply guaranteeing to farmers a minimum price and leaving supply and demand to regulate the price above this minimum.

Win the War by Preparing the Land. Sowing the Seed and Producing Bigger Crops

Work in Joint Effort the Soil of the U. S. and Canada—Co-operative Farming in Man Power Necessary to Win the Battle for Liberty

The Food Controllers of United States and Canada are asking for greater food production. Scarcely 100,000,000 bushels of wheat can be sent to the allies overseas before the crop harvest. Upon the efforts of the United States and Canada rest the burden of supply.

Every Available Tillable Acre Must Contribute; Every Available Farmer and Farm Hand Must Assist

Western Canada has an enormous acreage to be seeded but man power is short, and an appeal to the United States allies is for more men for seeding operations.

Canada's Wheat Production Last Year Was 225,000,000 Bushels; the demand from Canada alone, for 1918, is 400,000,000 Bushels

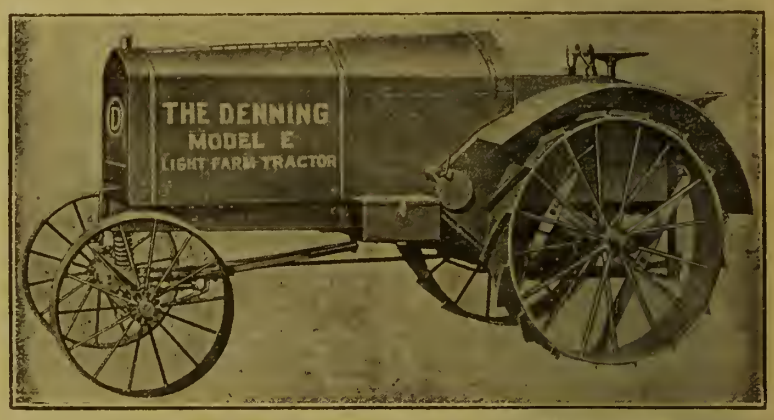
To secure this she must have assistance. She has the land, but needs the men. The Government of the United States wants every man who can effectively help to do farm work this year. It wants the land in the United States developed first, of course; but it also wants to help Canada. Whenever we find a man we can spare to Canada's fields after ours are supplied, we want to direct him there. Apply to our Employment Service, and we will tell where you can best serve the combined interests.

Western Canada's Help Will Be Required Not Later Than April 5th. Wages to Competent Help, $50 a Month and Up, Board and Lodging.

Those who respond to this appeal will get a warm welcome, good wages, good board, and find comfortable homes. They will get a rate of one cent a mile from Canadian boundary points to destination and return.

For particulars as to routes and places where employment may be had, apply to

U. S. Employment Service, Department of Labor



The Durable Denning Tractor

WITH WAUKESHA MOTOR. It Burns Kerosene. Does the Work of Eight Horses. Requires Only One Man.

The past six years demonstrated the weakness of the single drive wheel, the chain drive, and the open gear in the traction wheel. Now comes the Durable Denning with a double drive, all gears and mechanism in dust-tigbt casings. Every gear running in oil. These exclusive features mean more power and more durability.

Specifications: 2.200 lbs. drawbar pull guaranteed. No drive gears in traction wheels. Waukesha force cylinder, special high-speed tractor motor. Power on the belt. 20 h. p.; in the drawbar, 12 h. p. Fuel, kerosene. Speeds, variable speeds ahead and reverse, 1¾ to 3¼ miles per hour. Weight, 4,200 lbs. Denning drive mechanism (patented). Denning Steering Device (patent applied for). Manufactured by the National Tractor Company, Chicago, Ill.

The many exclusive features of the DURABLE DENNING mean a tractor for you that will save you power, save you repairs, save you time, save you the life of your tractor. Write for our tractor circular. It gives price and full information of this wonderful tractor.

Herbert Toogood Macbinery Co.,
1731 Wazee St., Denver, Colo.

Gentlemen: Please send me price and printed literature describing your Durable Denning Tractor.

Name.....

P.O.....State.....

R.F.D.....County.....

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1731 Wazee Street Denver, Colorado

Rider Agents Wanted

Everywhere to ride and exhibit the new **Ranger "Motorbike"** completely equipped with electric light and horn, carrier, stand, tool tank, coaster-brake, mud guards and anti-skid tires. **Choice of 44 other styles,** colors and sizes in the famous **"Ranger"** line of bicycles.

DELIVERED FREE on approval and **30 DAYS TRIAL.** Send for big **free** catalog and particulars of our *Factory-direct-to-Rider* marvelous offers and terms.

TIRES Lamps, Horns, Wheels, Sundries, and parts for all bicycles—at half usual prices.

SEND NO MONEY but tell us exactly what you need. Do not buy until you get our prices, terms and the big FREE catalog. Write *Today.*

MEAD CYCLE COMPANY Dept. T304 CHICAGO

Big Money in Running Water

Let us start you in business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an

Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

There is a big demand for wells to water stock and for irrigation.

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co.
Box 943 Clarinda, Iowa

14½ ¢ A ROD

164 styles, highest quality fence. Order direct at wire mill prices. Shipped from Kansas, Indiana, Nebraska, Texas, Colorado or California. Catalog Free. Write today. Geo. E. Long,

OTTAWA MFG. CO., 271 King St., Ottawa, Kans.

DITCHING

A Mile a Day is Easy With

This Simplex. Unequaled on irrigated farms for cutting or cleaning laterals. War time tool. Equals 100 men. Mostly all steel. Reversible. 10 days' trial.

Write for prices and money-back guarantee.

Simplex Farm Ditcher Co., Inc.
Box 70 Owensboro, Ky.

The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Everyhody who enlisted in the service of the country, promising the best of our best selves, should not forget that we are to continue at our hest if we win the war. Loyal sacrifice and saving, hand in hand with a willingness to work in whatever way we can to help our government, is necessary. The vital need is to save as much as we can of wheat, meat, especially pork, fats and coal.

Are we cheerfully accepting what comes to us, he it weather or shortage of fuel or food? So many are accepting a much worse lot than ours; and while we are not trying to get comfort out of another's misfortune, we can think less of our hard time and he glad that we are not in France or Belgium where the people are living thru untold suffering, and still smilingly determined to win at last.

Family Meal in Wartime

The above heading on the leaflet prepared by Miss Allison at the Farmers' and Farm Women's Congress attracted the attention of the delegates and many of the helpful little leaflets were taken home for careful study. We realize how difficult it is to hring about the many changes and adjustments in our preparation of adequate and suitahle foods for our families, but we are willing and anxious to try.

It has heen said, and truly said, that no nation ever won a war without wheat. Now facing this fact the war situation is critical. France, England and Italy are going hungry—too hungry to fight—unless we feed them. They must have wheat, wheat being the hest food to fight on and the easiest food to ship. We, by saving just a little—less than a quarter of what we ate last year—can support those who are fighting our hattles. We need not go hungry, only he willing to substitute another food just as good—and that substitute is corn. You say you do not like it? Learn to like it—the true American food on which the Indians, the hardiest of races, lived. Did not our forefathers adopt the use of it and conquer the continent? Think of the varieties of food corn gives us, from the delicious vegetable cooked in the many appetizing ways to its uses in hreads and desserts and cereals.

Write to the Department of Agriculture for Farmers' Bulletin 565, "Corn Meals as a Food and Ways of Using It."

But while you are waiting to receive the bulletin, try some of the following recipes that will help to save wheat:

Wheatless Biscuits

1 c. peanut butter
1½ c. water
½ c. cornmeal
1 tsp. salt

Directions: Put cornmeal in a shallow pan, place in oven and stir frequently until a delicate brown or, as some say, parched. Mix peanut butter, water and salt and beat over fire until hot. While hot, stir in the meal, which should also be hot. Beat thoroly and drop dough from spoon in small cakes into an ungreased pan. Each one of these biscuits, 16 in number, contains aboue one-sixth on an ounce of protein.

Potato Biscuits

2 tbsp. shortening
½ c. milk
4 tbsp. baking powder
½ tsp. salt
1 c. mashed potatoes
1 c. flour (wheat, rye or whole wheat)

Directions: Sift together dry ingredients, add potato, cutting in with knife. Work in shortening lightly, and enough milk to make a soft dough. Mix dough upon board and roll out about ½ inch thick, and cut any desired size with biscuit cutter. Bake them from 12 to 15 minutes in a rather quick oven.

Can Cut Meat Bill In Half

So said Miss Hahn of the Home Economics department of Colorado Agricultural College, at the top of her most excellent leaflet on the saving of beef, pork and mutton by using meat substitutes.

Miss Hahn also said: Use local supply of animal foods, such as poultry and eggs, game in season, fish, skimmilk, cottage cheese.

Use vegetable foods, legumes (peas, lentils, peanuts).

Use left-over meats for flavor in soups, with cereals, with legumes, with green or starchy vegetables.

Then followed the most helpful of demonstrations in the preparation of the following recipes which many of us took home and have found good and most acceptable for our men folks as well as other members of the family:

Dried Fish Chowder

½ lb. salt fish
4 cupfuls potatoes, diced
2 oz. salt pork or other fat
1 small onion, chopped
4 cupfuls skimmed milk

Pick over and shred the fish. Soak, at least 30 minutes in lukewarm water. Cut pork in small pieces and saute with onions till both are delicate brown. Add potatoes, cover with water and cook until potatoes are soft. Add fish, milk and salt, if necessary. Reheat.

Rice With Tomatoes and Cheese

4 cups cooked rice
2 cups stewed tomatoes
¼ pound (1 cup) grated cheese

Season with paprika, peppers, onion. Cook ingredients slowly in double boiler or bake in moderate oven ½ hour.

Spaghetti Loaf

1 eup scalded milk
1 cup bread crumbs
1 cup cooked spaghetti
3 eggs
1 cup grated cheese
1 tablespoon onion juice
1 tablespoon parsley (chopped)
1 tablespoon green peppers
1 tablespoon red peppers or pimento

To the scalded milk add bresd crumbs, cooked spaghetti, cheese and eggs, slightly beaten. Chop and sdd peppers and seasonings. Pour in buttered bread pan, set in hot water and bake in a slow oven till firm and slightly hrown. Turn out on platter and surround with tomato sauce.

Chartreuse of Meat and Rice

2 cups left-over meat, or less
1 teaspoon salt
¼ teaspoon pepper
¼ teaspoon onion juice
1 tablespoon chopped parsley
1 egg
¼ cup hread crumbs
4 cups cooked rice

Season meat and mix with crumbs and slightly besten egg. Add enough stock to mske it pack easily. Line greased mold with 3 cups rice, fill with meat, cover with remainder of rice, cover tightly and steam 45 minutes. Serve with tomato sauce.

Boston Roast

2 cupfuls cooked pinto beans
½ pound (2 c.) grated cheese.
Bread crumbs
Salt
Serve witb tomato sauce.

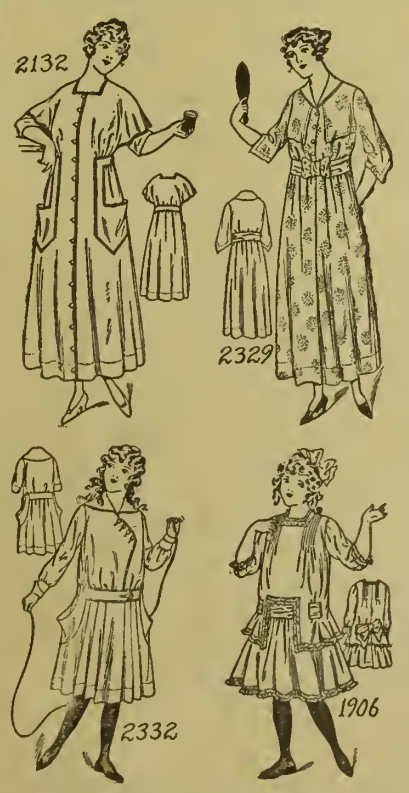
Mash beans or put tbem thru meat chopper. Add cheese and enough bread crumbs to form mixture into a stiff roll. Bake in a moderate oven, basting occasionally all with fat and water.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapaboe, Denver, Colo.

2132—Ladies' "Coverall" Apron. Cut in sizes Small, Medium and Large. Requires 4⅞ yards 36-inch material for medium size. This model will make an ideal morning house dress, especially for warm weather. It is comfortable, has ample fullness and lovely, spacious pockets which are cut in one with a belt, that holds the fullness of the garment.

2329—Pretty Negligee. Cut in sizes Small, Medium, Large and Extra Large. Requires 6¾ yards 36-inch material for medium size. As here shown, blue and white figured crepe was used. The design is also good for lawn, percale, Japanese toweling, albstross, casbmere, silk, flannel and flannelette. The bolero portion may be omitted. The fullness is held at the waistline by a belt, sash or girdle.

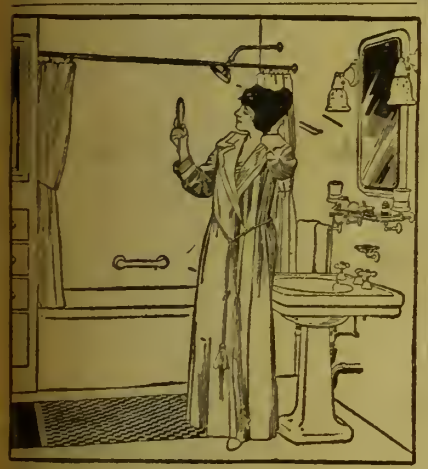


2332—Stylish Dress for the Growing Girl. Cut in sizes 6, 8, 10 and 12 years. Requires 4¼ yards 44-inch material for size 10. This model is good for serge, satin, for silk, casbmere, gabardine, for any of the pretty plaids or mixed suitings, as well as for wasb materials. The pocket is a pretty style feature. The skirt is straigbt and plaited.

1906—Dainty Model for "Party" or "Best Wear." Cut in sizes 6, 8, 10 and 12 years. Requires 3¼ yards for the dress and 1 yard lining for the underwaist for 8-year size. Lawn, batiste, crepe, challie, taffeta, messaline, gabardine, nun's veiling, linen and other wash fabrics are nice for this style. Braid, embroidery and lace are suitable for trimming.

WONDERFUL EGG PRODUCER

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called 'More Eggs." Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit-maker, write E. J. Reefer, Poultry Expert, 4242 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar hank guarantees if you are not absolutely satisfied your dollar will he returned on request and the "More Eggs" costs you nothing. Send a dollar today, or ask Mr. Reefer for his free poultry hook that tells the experience of a man who has made a fortune out of poultry.—Adv.



Running Water, Then—

"Standard" Plumbing Fixtures. You should have "Standard" equipment in the Bath Room and Kitchen. The Green and Gold label on each fixture is your guaranty of beauty, quality and service. Be sure it is on the ones you buy.

"Standard" Plumbing Fixtures

may be seen in nearly every town. If your house is piped for water, or if you expect to put water in, talk to your plumber or hardware dealer about "Standard".

We publish a complete catalog—"'Standard" Plumbing Fixtures for the Home," which will be sent you on request. Fill out the coupon below. Write for the catalog today.

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Department 236 Pittsburgh

Standard Sanitary Mfg. Co.
Department 236, Pittsburgh
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Furs, Game Heads, Fur Rugs

Every description of Fur and Taxidermy work done true to nature. Jonas Bros.' mountings and furs have a national reputation.

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Save your Fur Skins and have us transform them into beautiful Fur Sets, Robes and Rugs.

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30,000 SOLD—FIFTH YEAR
More Comfortable, Healthful, Convenient
Eliminates the out-house, open vault and cess pool, which are breeding places for germs. Have a warm, sanitary, odorless toilet right in your house. No going out in cold weather. A boon to invalids. Endorsed by State Boards of Health.
ABSOLUTELY ODORLESS
Put It Anywhere In The House
The germs are killed by a chemical process in water in the container. Empty once a month. No more trouble to empty than ashes. Closet absolutely guaranteed. Guarantee on file in the office of this publication. Ask for catalog and price
ROWE SANITARY MFG. CO., 1602 6th ST., DETROIT, MICH.
Ask about the Ro-San Washstand—Hot and Cold Running Water Without Plumbing

E-Z-M-T Indoor Toilet CITY COMFORT For Your HOME
Odorless and Sanitary
A warm, sanitary EZ-MT Indoor Toilet placed in your home on 30 DAYS TRIAL. No waterworks, no sewer. Simple, clean, durable. Real health-saver. Sick-room necessity. Small cost. Write for free literature
EZ-MT CHEMICAL CLOSET CO.
1650B Champa Street Denver, Colo.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Culling the Flock

Why not tell the public how to cull out the hens from a flock that are not laying and give the balance a chance to see what can be done? I would like very much to learn this part of the poultry business, and the first time you are in Pueblo would like to talk this matter over with you. I have a flock of 125 S. C. W. Leghorns and keep about that many on my place each year, and I feel confident that not more than half that number are worth keeping. If I could go thru the flock and pick out the laying hens my flock would then pay their way and leave a nice profit.—W. L. S., Pueblo.

For nine years we have been urging upon the people of Colorado the necessity of culling out the star boarders. No hen is good enough to pay for her own feed and care, pay the board of an idler and make a profit for her owner. There are a number of ways by which to determine these idlers, so there is no excuse for keeping them. The methods advocated by Potter of Illinois and Hogan of California are admirable, when used with judgment. The actions of a hen will also tell her owner whether she is on the job or not, even as the actions of a man show his usefulness to society. There is danger in advocating the various tests without fully explaining the necessity for using care, the time of making the test, etc. When a hen is in the moult she is not laying, and to discard her at that time because she does not meet the requirements would be unwise. To give the same test to a pullet not fully developed would be just as unfair; but when a hen or pullet SHOULD BE LAYING, then the body measurements as advocated by Potter and Hogan tell a big story. Just as soon as there is space we will take up this matter in Western Farm Life.

Her Hens Are All Right

I keep books in a way, but would like to do it right. Some of my pullets are losing feathers on the head and back of neck; they are perfectly healthy and lay every day. I have examined them for lice or mites and cannot find any. I have drop boards and they are cleared every morning and washed once a week and at same time I spray the roosts and boards and all around. I have never seen either lice or mites on any of the poultry. I feed oats sprouted or steamed, wheat mangels, table beets, turnips and squash and all the bran and alfalfa they want.—Mrs. M. C., Mesa County, Colo.

Under separate cover we are sending you the free record blanks which may help you in keeping books of your poultry work. There is nothing the matter with your pullets, as they are laying. Early hatched pullets often go into a partial moult after a short season of laying and this is probably what your pullets are now experiencing. You are fortunate in having laying pullets at this time of year and have stumbled upon the secret of success, if there is a secret, by hatching early enough to get your pullets to mature before cold weather. If your hens are not bothered with insect pests, have a variety of feed, with exercise, there is little need to worry about disease in the flock. You will find prevention better than cure.

Skim Milk for Chickens

I have a lot of separated milk and would like to feed it to my chickens, but did not know whether it would be good for them or not just as it came from the separator. I thought I might have to let it sour or put something in it to make it curdle. My chickens are doing pretty good now. What do you think about charcoal; should I keep it before them all the time?—J. P. H., Boulder County.

The best poultry feed on the farm is milk—any time, all kinds of milk, all the time. We are sending you bulletins in which you will see milk advocated either in the mash or as a drink. While there may be more medicinal value in sour milk, as a food sweet milk is as good or better. The fact that your hens are doing well is proof that the feed you are giving them is all right. If you use mash, use milk for mixing and in addition give them all the milk they will drink if you have it. Milk is a good animal food and will greatly lessen the food cost now that grain is so high. For years we kept charcoal with grit and oyster shell before our fowls all the time. For the past five years they have had none of this and are as healthy or healthier than ever and lay as many eggs. However, our hens have free range most of the time.

Food Administration Decides to Push Pinto Beans

Continued from Page 4

campaign, by increasing the demand for pintos and establishing a wider market, would have a beneficial effect on the price in proportion as the demand increased. These things the Food Administration is doing.

Pintos to Be Exported

4. The fourth suggestion was that more pintos be exported to our Allies. The Food Administration has advised our allies that it will be impossible for them to purchase white beans in this country, as there is sufficient demand for white beans here, and recommends that they purchase their white beans in Japan. However, the allies may purchase colored beans in the United States and have been urged to do so. Samples of pintos have been sent to England, both in the raw and baked form, and there is a prospect that there will be a very material increased demand for pintos for export.

The Food Administration is also doing other additional introductory work abroad with the pinto bean, the nature of which at present, for political reasons, cannot be disclosed. We have reason to believe, however, that this work will result in a great deal of benefit to our growers.

Mr. Lamson recommended to the meeting that a strong state-wide pinto bean association, including growers, jobbers, and all other interested parties, be created and that money be raised to carry on an advertising campaign in connection with the Food Administration's work to put the bean before the public. Some such organization is needed to carry on this most important work and also thru which the government can work in securing pinto beans which are true to name and up to standard as to quality. It is necessary that those who are buying pintos for the first time get a high quality product. It should be plainly understood that the Food Administration is not going to do it all; that growers have a product which is not known and that they will have to do their part. We strongly urge all growers to plan for an increased acreage next spring. The beans will be needed, and there is every reason to believe that prices will be satisfactory. In addition, it is an excellent sod crop; there is no better crop to grow in a rotation, and it is an excellent preparation for winter wheat seeding.

Profits Over Ten Times The Cost of the Incubator

That is how *Sure Hatch* is making money every year for owners. And food conditions now in war time have caused an extraordinary demand for chickens—with a short supply and higher prices. Do your share with a **Sure Hatch.** Thousands endorse it. Read about them in big **Sure Hatch** catalog. Over 300,000 well pleased owners of Sure Hatch incubators. Women can make big money with **Sure Hatch** as well as men. No more guess work. So simple a child can take care of it. Safe and durable.

20 Years Successful Experience

SURE HATCH has made thousands of people large, steady, sure profits in the last 20 years. **Sure Hatch** owners never buy any other make. Why experiment? Learn now how others have profited with the dependable Sure Hatch.

Freight Paid

All Extras FREE

SURE HATCH

Big Money Making Book FREE

Write today for our big Poultry Book. It tells all about how to raise and take care of poultry. Expert information, hundreds of practical experiences. Valuable for expert poultrymen as well as beginners. Now is the time to start. There's big money in chickens. **Sure Hatch** chicks bring the most because they are strong, sturdy and healthy. No use hatching chicks unless you can raise them, and **Sure Hatch Fresh Air Colony Brooders** raise all of them at the least expense. Write today sure. Just a postal brings this valuable book to you *Free.*

SURE HATCH INCUBATOR CO.
Box 51 Fremont, Neb.

$8.95 Buys 140-Egg Champion **Belle City Incubator**

Over 650,000 Users

Prize Winning Model — Hot Water, Copper Tank, Double Fibre Board Case, Self Regulated, Thermometer Holder, Nursery. With $5.25 Hot Water 140-Chick Brooder—both only $12.95.

Freight Prepaid East of Rockies and Allowed Towards Express

With this Guaranteed Hatching Outfit and my Guide Book for setting up and operating you are sure of success. — My **Special Offers** provide ways to make extra money. Save time—Order Now, or write for Free catalog, "Hatching Facts" — It tells all. — Jim Rohan, Pres.

Belle City Incubator Co., Box 77, Racine, Wis.

TELLS WHY CHICKS DIE

E. J. Keefer, poultry expert of 424 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhoea over night. All poultry raisers should write for this valuable free book.

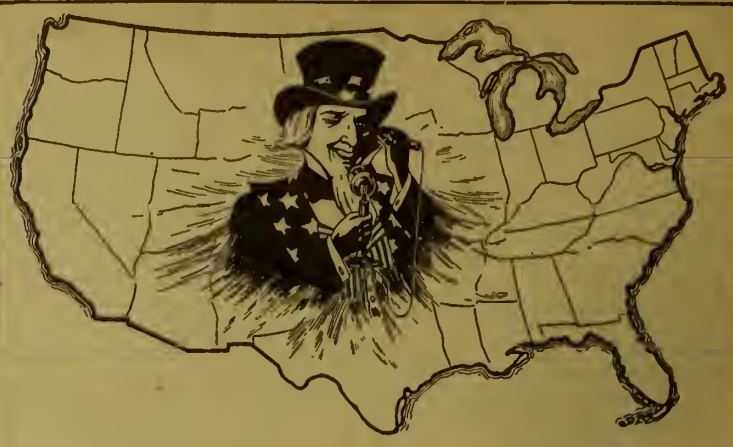
WILL SAVE YOUR CHICKS

Any reader of this paper who will write P. J. Kelly, the Poultryman, at 70 N. 2nd St., Minneapolis, Minn., will receive a Free Copy of his new booklet, "White Diarrhoea in Baby Chicks." It tells how to prevent, remedy and save the whole hatch. It's free and this paper urges you to write for it at once.

Raise Poultry—Help Win the War

Every backyard should have chickens now. Requires small outlay. Big profits if conducted properly. These booklets tell how to get best results: "LEE'S POULTRY BOOK," "SECRETS OF SUCCESS WITH CHICKENS," "CARE OF BABY CHICKS," "ALL ABOUT EGGS," "POINTERS FOR SUMMER AND FALL." Send today for these poultry helps, free for 5c stamps to cover mailing.
GEO. H. LEE CO. 286 LEE BUILDING OMAHA, NEBRASKA

Poultry Book Latest and best yet: 144 pages, 216 beautiful pictures; hatching, rearing, feeding and disease information. Describes busy Poultry Farm handling 53 pure-bred varieties. Tells how to choose fowls, eggs, incubators, sprouters. This book worth dollars mailed for 10 cents.
Berry's Poultry Farm, Box 96, Clarinda, Iowa



Uncle Sam Must Be Served First

The high development of telephone efficiency in this country gave the United States, when it entered the war, a superiority over all other nations for quick communication.

The nation's capital and the various military headquarters are linked with all the great industrial centers of the country by the long-distance lines of the Bell Telephone System.

Thousands of miles of special telephone wires have been turned over to the government for its exclusive use.

Right of way is given to government telephone calls over all lines. In its prosecution of the war our government has the effective cooperation of the Bell Telephone System, which reaches 70,000 communities and extends to every military camp in the United States. One man in every ten from the maintenance and construction forces of this company is now in the telephone signal corps of the army or in some other branch of the military service.

Not only have our men answered their country's call, but the telephone operators are "doing their bit" also. These faithful young women realize the tremendous dependence the nation places on rapid communication in this crisis, and are accepting cheerfully the heavy responsibilities thrust upon them.

In spite of the war and what it has meant to this company in the increased number of telephone messages to handle, the enlistment of so many of our trained employes, the shortage of equipment, and the high cost of telephone materials—

In spite of all these obstacles, we are meeting the needs of the public for telephone service in a remarkably successful way.

The Mountain States Telephone & Telegraph Company

S. C. White Leghorns Exclusively

The Rowley Egg Farms want to announce for the breeding season of 1918 that they have a very fine lot of two-year-old hens and cock birds which will be used as breeders this season. We have 1917 hatched pullets in the National Leghorn Egg-Laying Contest at Leavenworth, Kans., Out of 69 pens in competition we stood fourteenth at the end of December. The only Colorado birds in the contest. We claim merit for our birds and are willing to prove it. Get your orders in NOW for Eggs. We will book you with a small deposit. Eggs, $7.00 per 100; $1.50 per setting.

THE ROWLEY EGG FARMS CO., Palisade, Colo.

10,000 DAY-OLD CHICKS 40,000 EGGS FOR HATCHING

S. C. White LEGHORNS The Famous TOM BARRON Egg Machines--282 Egg Blood

Our Leghorns are range-raised, strong, healthy and vigorous. Tested 8 years for heavy egg production. Sure winners at the egg basket. Why not come to headquarters for bred-to-lay Leghorns? They will cost you no more. Highest quality—lowest price. Get our big free price list before you buy eggs, chicks or stock. Write

THE FOWLER EGG FARM Fowler, Colo.

Have a Coat made of that Hide

That hide is worth more to you as a coat than it will bring you as a hide. Real wool coats will be scarce next year, tailors say. Prepare now for next winter by getting a fur coat for every member of the family. Send your hides to us for tanning and coat-making. Our work is best. Our prices are most reasonable. Send for FREE illustrated catalog.

NATIONAL FUR AND TANNING CO., 2005 South 13th St., OMAHA, NEBRASKA

Stop Hatching Weak Chicks

With Cheap Incubators

Remember, it is not how many you hatch that counts, but how many you raise. A Queen costs but little more, and the extra chicks that **live and grow** soon pay the difference.

(30)

Queen Incubators

Hatch Chicks That Live and Grow

Built of genuine California Redwood. Redwood does not absorb the odor from the hatching eggs. Cheaper woods, and pasteboard lining in iron and tin machines, retain the odors to weaken and kill the hatching chicks.

The Queen is accurately regulated—taking care of temperature variation of 70 degrees without danger. Not cheap, but cheap in the long run. Catalog free.

Queen Incubator Co. Lincoln, Nebr.

Farmers' and Stockmens' Exchange

Advertisements will be inserted in this department for 5c per word; four or more insertions, 4c a word each insertion. Remittances can be made by postoffice money order or personal check. Advertisements are set in uniform style, no display type or illustrations admitted under any circumstances. Every figure and initial counts as one word. Guaranteed circulation over 50,000 copies each issue. WESTERN FARM LIFE is issued semi-monthly the first and fifteenth of each month. Advertising copy for this department must reach us ten days before date of issue. It carries the most classified advertising because it gives you best results. Send us in a trial advertisement. Write for proof showing how these columns pay advertisers.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

LEGHORNS

S. C. BUFF LEGHORNS, HEASLEY'S EGG Basket strain. Mrs. J. W. Kyffin, Fowler, Colo.

L. D. GOOCH, SEWARD, KAN., WILL SELL R. C. Brown Leghorn cockerels $2.00 each if taken soon.

S. C. BROWN LEGHORNS—SETTING EGGS, $8.00 hundred; $1.25 setting. W. L. White, Altsmont, Kan.

SINGLE-COMB BROWN LEGHORNS—COCKerels, $2.50; write for circulars. Chas. Bowlin, Olivet, Kan.

SINGLE COMB WHITE LEGHORN BABY chicks, 15 cents each. Orders booked now. Mrs. Anna Hege, Sedgwick, Kan.

CHOICE S. C. W. LEGHORN COCKERELS—eggs and chicks in season, from extra layers. Mrs. Geo. W. Stephens, R. No. 4, Lexington, Neb.

CHOICE S. C. WHITE LEGHORN COCKERELS $2 to $3. Hens, $2, bred to lay; 280-egg strain. Eggs for hatching. Plainview Poultry Farm, Lebo, Kan., R. 1.

SINGLE COMB WHITE LEGHORNS, HEAVY winter layers; 13 years in the business; hatching eggs, day-old chicks. Riverside Poultry Farm H. D. Walker, La Junta, Colo.

HAINES HUSTLERS—EGG-BRED PEDIGREED Single Comb Buff Leghorn; strong winners at Gold Special and Kansas State Federation shows; eggs from exhibition pens and range flock; cockerels from 200-egg hens. Pearl Haines, Rosslia, Kan.

ORPINGTONS

SINGLE-COMB BUFF ORPINGTON COCKERels; best breeding and great size, $5.00 each. Sunflower Ranch, Ottawa, Kan.

BUFF ORPINGTON COCKERELS OF QUALITY Winners at Canon City and Salida shows. $5 each while they last. Geo. S. Turner, Canon City, Colo.

PURE BLOOD WHITE ORPINGTON COCKERels from selected laying stock, $3.50 to $5.00 each; also fine hens, $2.50 each. Try some of the Orpingtons in Eastern Colorado. Vida M. Fletcher, Wiley, Colo.

S. C. BUFF ORPINGTONS, THE FOWL FOR the fancier, farmer and back-lotter. Book egg orders early and avoid the rush. A few good breeding cockerels at $4.00, $5.00 and $7.00 each. F. M. Shank, Route 2-A, La Junta, Colo.

PLYMOUTH ROCKS

WEIGHER-LAYER BARRED ROCK COCKERELS $3.00 to $5.00. C. F. Fickel, Earlton, Kan.

WINTER LAYING STRAIN BARRED ROCKS—Cockerels. Eggs, $5—100, $1—15. Valuable circular free. O. E. Skinner, Columbus, Kan.

WINTER LAYERS — BARRED PLYMOUTH Rock Eggs; 15, $1; 100, $5. Mrs. Lon Edwards, 1105 Garfield Ave., Loveland, Colo.

BARRED PLYMOUTH ROCKS; A NICE LOT OF cockerels, mostly of the light or pullet bred line, and a few hens and pullets. Bradley and Latham strain; none better. Chester Blunt, Greeley, Colo., R. 1.

PARTRIDGE PLYMOUTH ROCKS — THE beauty and utility breed—stock for sale that are prize winners. Pullets $2.00, cockerels $3.00 to $5.00 each. Eggs for hatching $1.50 and $3.00 for 15 eggs. Satisfaction guaranteed. A. R. Stover, Manzanola, Colo.

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QUALITY DARK CORNISH. MATING LIST. R. H. Jandebeur, Alma, Neb.

QUALITY DARK CORNISH, THE IDEAL FARM fowl. W. W. Officer, Fowler, Colo.

DARK CORNISH FOR SALE—MATED TRIOS, pens and single birds; big winners at all Denver shows. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

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WHITE WYANDOTTES—PRIZE WINNING AND heavy laying strain; choice birds for sale. Miss Anna Lansdown, Fort Lupton, Colo.

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SINGLE-COMB ANCONA COCKERELS, $3.00 each. Quality Ancona Yards, Morganville, Kan.

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A FINE LOT OF S. C. RED COCKERELS FOR sale. Get them now—$2 to $3. Ed Grotenhuis, Crawford, Colo.

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FOR SALE—PURE BRED MAMMOTH WHITE Holland Turkeys, Single-Comb Brown Leghorn cockerels and White African Guineas. Mrs. C. May, Garfield, Kan.

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FOR SALE, EGGS—EGGS FROM ALL KINDS of purebred poultry; three kinds of geese, seven kinds of ducks, pearl and white guineas, bantams, fancy pigeons, rabbits, guinea pigs, canaries. Write wants. D. L. Bruen, Platte Center, Neb.

COLUMBIA HATCHERY—ALL LEADING VArieties of baby chickens, cockerels, turkey gobblers and hatching eggs in incubator lots. We ship to all parts of Colorado, Wyoming and New Mexico and guarantee live delivery to your express office. Write for our price list and particulars.

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BABY CHICKS—YOU BUY THE BEST, GUARanteed alive, at Colwell's Hatchery, Smith Center, Kan. Shipped anywhere, 12 cents.

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IT'S GOOD BIG HATCHES YOU WANT. DENver Incubators are built and tested for this dry climate and positively hatch big, strong chicks. Get our free catalog. Low prices, with freight prepaid. Coal-heated colony brooders $17.50. Our lamp-heated brooders can't be best. For Sale—Baby chicks and hatching eggs from Hoganized flocks that will make you money. Selected from the best in Colorado. Denver Incubator Co., 175 South Broadway, Denver, Colo.

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SEEDS AND NURSERY STOCK

SAN LUIS SEED PEAS—CARLOAD OR LOCAL shipments. Prices and samples gladly submitted. A. A. Salazar & Son, San Luis, Colo.

BUY TREES FOR YOUR ORCHARD OR GROVE and have two and three years to pay at the same time. All stock that fails to grow replaced free. Address Weldon Valley Adv. Co., Weldona, Colo.

CHOICE, EXTRA LARGE GRADED PINTO beans, grown at 6,500 feet, double sacked, germination tested, state label. Hundred pound lots or more, $12.50 per cwt. F. O. B. Calhan. Arobine Ranch, Calhan, Colo.

CHOICE WHITE SWEET CLOVER AND ALfalfa at farmers' prices. J. M. Lewis, Virgil, Kan.

PEDIGREED SEED POTATOES, ABSOLUTELY pure. Famous Dean Baking Russls, $4 cwt.; Bliss Triumph, $5 cwt. Pure type. McClellan Seed Co., Greeley, Colo.

EVERBEARING STRAWBERRY PLANTS; PROgressive variety; flavor, heavy bearing qualities and ability to bear in cold weather makes them best small fruit for mountain states. Price $2.00 per 100, $5.00 for 300, $15 per 1,000; prepaid. J. L. Salladay, Arvada, Colo.

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READY-CUT HOUSES AND BARNS, WHOLEsale, mill prices. Plan book free. Keystone Lumber Co., Tacoma, Wash.

LUMBER—POSTS. WRITE US ABOUT PRICES delivered your station. Send list for estimate. Pay after unloading. Kirk Company, Box 1138-S, Tacoma, Wash.

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12-20 EMERSON KEROSENE TRACTOR, WITH plow outfit; almost new; terms. H. A. Todd, Raton, N. M.

FOR SALE—LITTLE BULL TRACTOR, $275. Twelve 100-lb. shotes; weanling colts; White Plymouth Rock cockerels. Lone Tree Ranch, Carr, Colo.

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KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's, the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

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LET US TAN YOUR HIDE—COW, HORSE OR calf skins for coat or robe. Catalog on request. The Crosby-Frisian Fur Co., Rochester, N. Y.

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BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

HELP WANTED

WANTED—EXPERIENCED FARMERS TO RENT farms under good irrigation system at Rock River, Wyo. All farms have sufficient acreage in alfalfa and good buildings; close to good school and adjoining free range. For further information write H. W. Brettell, Rock River, Wyo.

FARMS AND RANCHES

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GOVERNMENT LANDS—BOOKLET. JOSEPH Clark, Sacramento, Cal.

I WANT TO HEAR FROM OWNER OF FARM OR unimproved land for sale. Mrs. W. Booth, Pulaski, Iowa.

WANTED—TO HEAR FROM OWNER OF GOOD farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

FOR SALE—640 ACRES OF THE BEST IMproved dry land in Douglas Co., cheap, with or without stock and implements. G. Gerber, 417 28th St., Denver, Colo.

I HAVE SOME CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give full description, location and cash price. James P. White, New Franklin, Mo.

IF YOU WANT TO BUY A NICE HOME OF 40 acres adjoining Ordway, Colo., the county seat of Crowley county, in the heart of the greatest farming belt of Colorado, write A. O. Drumright, Box 145, Ordway, Colo.

FOR SALE—280 ACRES IRRIGATED RANCH, 120 acres under cultivation. Close to city of Salida, runs along county and railroad, five minutes to school house, good grazing lands. Owner, Jno. Drobnick, Salida, Colorado, R. F. D. Box 73.

IRRIGATED FARM FOR SALE—225 ACRES, five miles from Denver Stockyards, one mile from railroad station. First-class water right, excellent improvements; liberal terms. J. D. Hitch, 525 Cooper Bldg., Denver.

RELINQUISHMENT FOR SALE—OTERO CO. homestead; 320 acres with improvements, 25 acres in cultivation; have used my homestead right is reason for selling. Don't overlook this great chance for homesteader. Address P. O. Box 148, Breckenridge, Colo.

HALF SECTION DEEDED, FENCED, FOUR miles to railroad station; 120 acres cultivated; will cut 70 tons native hay; abundance of seepage water; excellent farm for corn, beans and wheat; owner drafted; must sell. Write for full particulars. C. K. O'Byrne, 326 Symes Bldg., Denver, Colo.

HAY RANCH—PRODUCES 500 TONS SOUTH Park hay; deeded, 72 feet decreed water rights, improvements, adjacent railroad, town and forest reserve. Ideal for hay or stock ranch. Yearly income about $13,000; must be sold immediately. C. K. O'Byrne, 326 Symes Bldg., Denver.

WE FORECLOSED ON 600-ACRE RANCH, Western Slope, half agricultural, half range. Good water rights, buildings, eight miles from market, adjoining United States Forest Range. Will sell reasonably, part cash, terms on balance. Splendid proposition. Interstate Trust Company, 15th and Stout, Denver, Colo.

"THE OZARK REGION OF MISSOURI AND Arkansas," along the Kansas City Southern Railway, contains an accurate description of Western Arkansas and Southwestern Missouri, of the farms, crops, towns and cities, and opportunities for business in all lines of endeavor. Splendid country to live in. Write for a free copy. F. K. Woodruff, Director of Development, 611 K. C. S. Bldg., Kansas City, Mo.

LIVE STOCK

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CATTLE

REGISTERED HOLSTEIN BULL CALF, 8 months old, $75.00. Geo. S. Turner, Canon City, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Held, Sterling, Colo.

HOGS

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC-JERSEY HOGS—LARGE, BIG-BONED, registered and immune. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

DAIRY CATTLE

The Jerseys

Continued from Page 17

Class No. 88—Jersey aged bull—Hinman Silo Co., 1; J. D. Pancake, Berthoud, Colo., 2.

Class No. 90—Jersey senior yearling bull—Hinman Silo Co., Denver, Colo., 1 and 2.

Class No. 92—Jersey senior bull calf—A. M. McClenahan, Greeley, Colo., 1; Hinman Silo Co., 2.

Class No. 93—Jersey junior bull calf—A. M. McClenahan, 1; Theo. Morford, Golden, Colo., 2; Hinman Silo Co., 3.

Class No. 94—Jersey aged cow—A. M. McClenahan, 1; A. M. McClenahan, 2; Hinman Silo Co., Denver, Colo., 3.

Class No. 95—Jersey cow 2 years old and under 3—Hinman Silo Co., 1; Hinman Silo Co., 2; Theo. Morford, Golden, Colo., 3.

Class No. 96—Jersey senior yearling heifer—A. M. McClenahan, 1; Hinman Silo Co., 3.

Class No. 97—Jersey junior yearling heifer—Hinman Silo Co., 1; A. M. McClenahan, 2 and 3.

Milking Shorthorns

Milking Shorthorn champion bull—Pine Valley Duke 472904, Pine Valley D. & F. Co., Colorado Springs, Colo., champion; Pine Valley Star, Pine Valley D. & F. Co., reserve champion.

Milking Shorthorn champion cow—Big Sharon 150395, Pine Valley D. & F. Co., champion; Pine Valley Eudora 632122, Pine Valley D. & F. Co., reserve champion.

Class No. 142—Milking Shorthorn aged bull—State Industrial School, Golden, Colo., 1.

Class No. 143—Milking Shorthorn bull, 2 years old and under 3—Pine Valley D. & F. Co., Colorado Springs, Colo., 1.

Class No. 144—Milking Shorthorn yearling bull—Pine Valley D. & F. Co., 1 and 2.

Class No. 145—Milking Shorthorn bull calf—Pine Valley D. & F. Co., 1; State Industrial School, 2; J. B. Benedict, Littleton, Colo., 3.

Class No. 146—Milking Shorthorn aged cow—Pine Valley D. & F. Co., 1; State Industrial School, 2.

Class No. 147—Milking Shorthorn champion cow—Mariposa Lily 632120, Pine Valley D. & F. Co., Colorado Springs, Colo.

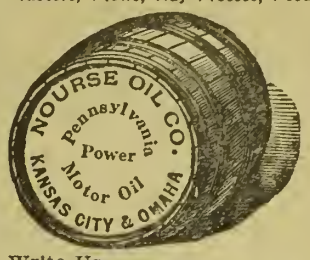
Class No. 148—Milking Shorthorn yearling heifer—Pine Valley D. & F. Co., 1.

Class No. 149—Milking Shorthorn heifer calf—J. B. Benedict, 1; Pine Valley D. & F. Co., 2.

Only One Guernsey Herd

In the Guernseys the H. D. Parker herd had everything its own way, there being no competition this year, altho there are a number of very good herds of this breed in the mountain states. Allenwood Prince 28147, as grand champion Guernsey bull, and Jeanette's Noble 45269, as reserve champion, are outstanding individuals of the breed and of the Parker herd that can go up against competition anywhere in the country. In the cow classes the grand championship was bestowed on Holden's Daisy, with Belle of Glendale as reserve champion. The Parker herd left the show with 26 ribbons and trophies.

Tractors, Plows, Hay Presses, Feed Grinders



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WEAR OVERLAND ALUMINUM SHOES

For all rough, wet work on farm or elsewhere. Outwear other boots or shoes. Light and easy on feet. Water-proof, rust-proof, rot-proof. Shaped like army shoe. Easy walking. Warm in winter; cool in summer. Cushion insoles. Money Back Guarantee. All sizes. FREE catalog shows styles and prices. Write for it. A postal will do.

OVERLAND SHOE CO., Dept. 52B Racine, Wis.

$20.00 Sweep Feed Grinder. | $26.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

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610 E. Seventh St., Topeka, Kansas

Elastic Hosiery

Veterinary Instruments

Abdominal Belts

Invalid Chairs, Crutches, Sick Room Supplies

Write today for measurement blank

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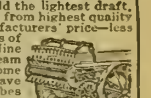
"Kero-Oil" Engines

Immediate Shipment—All Styles—2 to 22 H-P.—No Waiting—Big Factory—Big Output—Prices most favorable. Write for my terms and prices—Cash, Payments or No Money Down.—ED. H. WITTE, Pres.

2640 WITTE ENGINE WORKS 2640 Oakland Ave., Kansas City, Mo. Empire Bldg., Pittsburg, Pa.

I Save You $15 to $200

SAVE MONEY ON SPREADERS



Buy direct from my factories where I build the lightest draft, easily handled, expertly designed spreader from highest quality materials and sell to you at lowest manufacturers' price—less than wholesale! Thousands upon thousands of Galloway Spreaders giving satisfaction. Nine styles and sizes. Also build engines and cream separators. 300,000 satisfied customers—some in your vicinity. Close shipping points save freight. My free catalog honestly describes Galloway goods. Get it before buying. Please mention implement wanted.

WM. GALLOWAY CO., 8 1829 WATERLOO, IOWA

Steel Wheels

will make your old farm wagon as good as new. Save money because they never need repairs. Write for our big free book telling all about them and how they pay. Empire Mfg. Co., Box 797 Quincy, Ill.

BOOK FREE

Agricultural College Display

Continued from Page 6

Cache la Poudre school in Larimer county, a $35,000 plant that is the pioneer among the consolidations; Kit Carson county district 19 centralized school; Mead, where a plant is just being finished, Valmont, Hygiene and Gill. The record is one that speaks volumes for the Agricultural College in its hroad work of hettering rural community life.

In the animal hushandry department the farmer and farm woman found much that was helpful. There was a complete farm cheese-making outfit with the advice that "All you need to huy is the rennet and the thermometer." There was a cheese "made under farm conditions at a cost of 19 cents a pound, hased on price of 50 cents a pound for hutterfat and 50 cents a hundred pounds for skimmilk." Dried, smoked and salt meats were shown, as put up on the farm, and the recipes were there for all who wished to copy them.

An interesting feature of the animal hushandry exhihit was that showing feeding experiments with steers and lamhs. The story was told hy photographs, charts and ration exhihits.

There was an interesting exhihit showing the how and why of the seed testing law, with Professor Eggington, the analyst in charge. The state dairy department took a shot at the kaiser with cannon made of milk cans, mounted on heavy wheels and cheese moulded into shell shapes for ammunition.

The veterinary department was on hand with an assortment of lungs, livers and other harometers of animal diseases and advice galore as to how a stockman may avoid or cure the ills that cattle are heir to. There was emphasis on prevention and prophylaxis and warnings against hog cholera and blackleg, the scourges, respectively, of the swineherd and the cattle drover.

One significant placard told us that it cost 10 ranchmen $792 to save themselves a loss of what had amounted to $10,940 before they used a standard hlackleg serum on their calves. Ranchmen were urged to send specimens of suspected poison plants to the veterinary department for identification and to "attend to" stray dogs, magpies and pigeons, hecause they may spread hog cholera .

The exhibit was under direction of Prof. H. T. French, head of the Extension department at Fort Collins, with details of arrangement in charge of W. E. Vaplon. It was pronounced the largest and hest educational exhibit ever prepared hy the college and created much favorahle comment.

Comment by Farmer Putnam

Continued from Page 11

bought the two fur $700 and throwed 'em right hack in the auction, where they brought $400 more. The $400 was Larimer county money and the calves goes up thar to stay The money was over in the yards this year and not in the arena. Them arena fellers was all pikers compared to the stockmen in the yards where the carlot of Red Cross calves was sold fur purty nigh $14,000.

After I seen how them fellers wasn't afraid to part with their money, I got back my confidence in the human race and I sez: "The hull was right as fur as he goes. Cattle is peaceahle, alright, and they never start anything, but it takes humans to make the world interestin', even if we has to suffer fur our fun."

THOMAS JEFFERSON PUTNAM.

Jarosa Horse Sale March 4

The big event for farm horse buyers is the annual sale on the Jarosa ranch at Longmont, which is scheduled this year for March 4th. In announcing his fifth annual sale Mr. Howard M. Jay is listing 23 head of young stallions and 35 registered mares, all of them of Colorado acclimated Percheron, Belgian and Shire stock. These sales have become an institution in Colorado, buyers being attracted from a wide territory.

There is a most insistent demand for good horses, with accent on the good. The scrub animal is passing out of existence as a factor in farming. He does not meet the test of these strenuous times, when every item of feeding and care must be taken into consideration. In former days the farmer could make up for lack of breeding and stamina by numbers. Nowadays it costs to keep a horse and only the animal of good blood and constitution answers the farmer's purpose. The war demand, also, is stronger than ever. One of the notable developments in recent weeks has been the publication by the British farm journals of the fact that the Western range bred draft horse has proved the most acceptable of all horses for the strenuous work in Europe.

Because of this activity in the horse market there is unusual interest in the Jarosa sale this year. Farmers want to get into the business on the right basis and the only way is to get first class blood. Mr. Jay's offerings are all purebred and registered, and every animal is acclimated, which means a lot to the buyer. He does not want to go back east for his foundation stock and he does not have to.

Last year's sale proved such a success in every way that preparations are being made to take care of a larger crowd at Longmont this year. It is the one chance of the year to buy horses right and buy them where they are shown in their home stables by one of the West's master horse breeders.

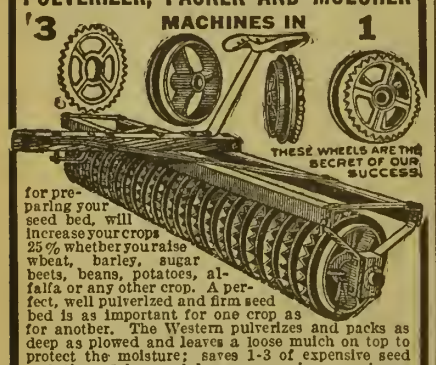
Jarosa Ranch was well represented in the exhibits at the National Western Stock Show, one of the features that attracted much public attention being the big six-horse hitch, which was in the arena bidding for popularity with the famous Bix Six of Swift's. George Butz, a young man employed on the ranch, drove the hitch, it being his first appearance in public. In fact he did not have opportunity to drive the six until he got to Denver, as the notice was so short that extra harness had to be telegraphed for, which did not arrive until the opening of the show. In spite of this the young man acquitted himself with skill and honor.

Horse Awards March 1st

Lack of space in the present issue has made it necessary to defer publication of the awards made in the horse department at the National Western Stock show, and also the carlot cattle awards. These will appear in the issue of March 1st.

USE THE WESTERN PULVERIZER, PACKER AND MULCHER

3 MACHINES IN 1



for preparing your seed bed, will increase your crops 25% whether you raise wheat, barley, sugar beets, beans, potatoes, alfalfa or any other crop. A perfect, well pulverized and firm seed bed is as important for one crop as for another. The Western pulverizes and packs as deep as plowed and leaves a loose mulch on top to protect the moisture; saves 1-3 of expensive seed and time, labor and horse power in preparing a seed bed. It is especially adapted for breaking crust and cultivating winter wheat in the spring, or for breaking crust on sugar beets or beans either before or after they are up without injury to the plants.

MADE IN 12 SIZES, FOR HORSES OR TRACTOR USE, IN 1 AND 3 SECTIONS

1918 crop will bring war prices; make it a record breaker in size by using the Western. Send for our free illustrated catalog, giving full description of the machine and its work, also dealer's name and much other valuable information.

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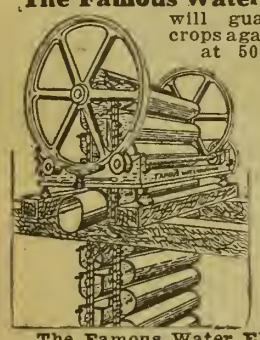

will guarantee your crops against droughts at 50% less cost than other systems. Our elevators are shipped on 30-day **Free Trial.** Write today for our catalog — it is free.

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Two 10 months old Registered Bulls from heavy producing cows of the St. Lambert breeding. Write

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BARGAINS Percherons, Belgians, Shire, Suffolk, Clyde, Hackney, Great Coach Stallions, $450 and up. Good Jacks. One, two and three years' time given purchasers.

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Good Block Des Moines, Iowa

BLUE RIBBON HERD
DUROC JERSEY HOGS
Everything Registered
Stock for Sale
C. F. BURKE, Rocky Ford, Colo.

HIGH GRADE HOLSTEINS
WE OFFER FOR SALE, choice, beautifully marked heifers or bulls, 8 to 5 months old, $45.00 crated F. O. B. cars. Write W. C. KENYON & SONS, Elgin, Ill.

Kansas Germ-Free Fluid Vaccine for Blackleg

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died.—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

The Kansas Blackleg Serum Co.

Livestock Exchange Bldg., Room 407, Denver, Colo.

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Denver, Colorado

PURE-BRED **Hereford** BULLS

We Have on Hand and For Sale
250 Head Yearling Bulls
100 Head Two-year-old Bulls
Good Bone, Colors and Markings
Fine Condition for Service

Write or phone us regarding these Bulls. It will be worth your while.

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JUNIOR CHAMPION SOW
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Also 7 first premiums, one second, one third, two fifths, one sixth and one seventh premium. Also first awards in a numher of special premiums.

Every hog shown, with one exception, was farrowed on Edgemoor Farm

CHERRY CHIEF OF EDGEMOOR, first under year boar, Junior Champion and Grand Champion (over boars all ages) was the sensation of the Show. He is by Eminent Chief, by Cherry Chief, dam, The Principal's Helen by The Principal 4th. Cherry Chief of Edgemoor is the greatest under year boar ever shown in the West.

Come to Edgemoor Farm when in need of big type Durocs of best blood lines.

No brood sows or bred gilts for sale at present, but still have a few choice young boars, by Welrex and High Model, including two outstanding fall boars, half brothers to Champion Cherry Chief of Edgemoor.

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VISITORS WELCOME Caldwell Martin, Owner

JERSEY BULL We have for sale a Jersey bull calf, born September 19, 1917. He is out of Golden Rod's Dahlia, a very large cow of good type, who is the dam of the heifer winning Junior Championship at Denver two years ago. This bull calf is sired by Minnie's Sans Aloi, a son of Financial Countess, former world's record cow. Sans Aloi was selected by Mr. Hugh Van Pelt as the herd sire for his Jersey breeding farm in Iowa. Mr. Van Pelt was Judge of the Jerseys at Denver this year, and his judgment on both type and breeding is as good as that of any breeder and Judge in the country. This calf should improve some Colorado herd. Price $100.00.

We now have a new Jersey herd sire, and everyone interested in Jerseys should look for hi get next year. He is sired by a son of Gamboge Knight and is out of a Show cow with a record of 839.9 lbs. of butter in a year.

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Colorado Agricultural College Fort Collins, Colorado

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Majesty Oxford Combination, half brother to the grand champion at Columbus, at head of herd.

A September calf, by Count Majesty, out of Imp. Cowslip's Sweet Bread, an imported cow; a nice straight calf, solid color and good, at right price.

A spring boar, by Proud Chief Jr., out of Dixie Girl, by Lee's Defender, at right price.

Also a few September pigs out of a daughter of Model Critic, by a son of Grand Model. Prices right.

A. M. McCLENAHAN, Greeley, Colo.

IN

WESTERN FARM LIFE

VOL. XX Denver, Colorado, March 1, 1918 Semi-Monthly

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We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

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Soap Weed Ensilage

Soap-weed silage is the latest thing in rough feeds for cattle. Those familiar with soap-weed or yucca will agree that rough is the proper term in that connection. Some time ago a subscriber of Western Farm Life wrote from Santa Fe, N. M., that he had used soap-weed last winter as a dry feed, by cutting it into suitable lengths. He fed it to milk cows, because he was short of roughage, and he said they ate it. It is well known to stockmen on the range that cattle have a fondness for the soap-weed blossoms, which are sweet and juicy, but unless the animals are in starving condition they will not tackle the leaves of the plant.

Now, however, we have at hand the first report on the ensiling of soap-weed, which has been tried with success under supervision of men employed by the United States Forest Service engaged in range management experiments in southern New Mexico. It must be borne in mind that the soap-weed plant in that section grows to a much greater height than in Colorado and furnishes more bulk per plant. As the fiber of this plant is extensively used in making a coarse form of cordage, it does not appear to offer anything valuable as a contribution to desert feeding plants, the experiment being merely to determine whether it has any possibilities for emergency use in years of prolonged drouth when ordinary grasses die. Following is from Bulletin No. 588, entitled "Increased Cattle Production on the Southwestern Ranges," by James T. Jardine and L. C. Hurtt:

The feeding of cottonseed cake does not do away with the necessity for roughage, either in the form of range forage or in some other form. The dry cured forage on the range will usually meet this need, but in case of prolonged drought, such as occasionally comes in the southwest, the supply of range feed may become exhausted. To meet such emergencies, it would be a distinct advantage to accumulate a reserve supply of roughage in the form of hay or ensilage during the more favorable years.

With this in view, two pit silos, lined with cement, were constructed in 1915. In August, one of about 20 tons' capacity was filled with tobosa grass and a small quantity of soap weed. The tobosa grass was cut just before it matured, and was run thru an ensilage machine into the silo. Late in the winter of 1916 the silo was opened and the ensilage fed to 2-year-old steers and milk cows. Even tho the stock were thin, they refused to eat the ensilage to any extent. A small quantity of tobosa grass was cut and put up as hay. This also the stock refused to eat unless starved to it. It is doubtful if tobosa grass will be of any real value, either as hay or ensilage.

The other silo has a capacity of about 200 tons. In early December, 1915, about 150 tons of soap weed (yucca elata) was gathered and run thru an ensilage cutter into this silo. The top was covered with straw and earth, and left closed until March, 1916. The silo was then opened, and a few poor cows were fed a ration of the soapweed ensilage once a day. Most of them learned to eat it quickly and with relish. About 10 tons of the ensilage was fed with encouraging results. The pit was then closed; it will be opened later, when there is need of supplemental feed.

During the short interval between filling and opening the silo the coarse fiber of the soap-weed leaves had softened a good deal; but it was still rather tough, and the stock had difficulty in eating it. This was due, in large part, to the fact that the ensilage machine used would not chop the thick, tough leaves fine enough. Portions 6 inches long were not uncommon. A machine which would chop the leaves into smaller pieces would improve the ensilage a good deal.

The soap-weed can be cut, hauled and put into the silo at a cost of $2 to $2.50 per ton, not including cost of the silo. It takes two or more years after the first cutting for the plants to produce a growth of leaves large enough for a second. It would not be practicable, therefore, to fill a silo each year in the same place. This, of course, is something of a disadvantage.

Tho the test has just begun, it seems probable that soap-weed may prove of considerable value as ensilage. Further tests will be made to determine feeding value and secure more complete data on costs and returns.

Marriage Not a Failure.

"Is marriage a failure?" "I should say not!" remarked an Oregon farmer. "Why, there's Lucindy gits up in the mornin', milks six cows, gits breakfast, starts four children to skewl, looks after the other three, feeds the hens, likewise the hogs, likewise some motherless sheep, skims twenty pans of milk, washes the clothes, gits dinner, et cetery, et cetery. Think I could hire anybody to do it for what she gits? Not much! Marriage, sir, is a success; a great success!"—Exchange.

In The Nation's Service

America is sending its best men to fight for freedom, and in their honor the whole land is dotted with service flags carrying the stars of sacrifice.

It is a far cry from the crowded city streets above which floats our service flag to the telephone exchange hidden in the front-line trenches. But the actuating spirit of service here and abroad remains unchanged.

The Stars and Stripes is the emblem which unites us in w for human liberty and natio honor. The service flag is t emblem which unites us mutual sympathy for the m who give themselves and f those who give their men.

These flags should insp all citizens to greater endeav and greater sacrifice. As o of the agencies of preparati and military support, the B System is honored by the o portunity to do its share.

AMERICAN TELEPHONE AND TELEGRAPH COMPA AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Serv*

Win the War by Preparing the Land. Sowing the Seed and Producing Bigger Crops

Work In Joint Effort the Soil of the U. S. and Canada—Co-operative Farming In Man Power Necessary to Win the Battle for Liberty

The Food Controllers of United States and Canada are asking for greater food production. Scarcely 100,000,000 bushels of wheat can be sent to the allies overseas before the crop harvest. Upon the efforts of the United States and Canada rest the burden of supply.

Every Available Tillable Acre Must Contribute; Every Available Farmer and Farm Hand Must Assist

Western Canada has an enormous acreage to be seeded but man power is short, and an appeal to the United States allies is for more men for seeding operations.

Canada's Wheat Production Last Year Was 225,000,000 Bushels; the demand from Canada alone, for 1918, is 400,000,000 Bushels

To secure this she must have assistance. She has the land, but needs the men. The Government of the United States wants every man who can effectively help to do farm work this year. It wants the land in the United States developed first, of course; but it also wants to help Canada. Whenever we find a man we can spare to Canada's fields after ours are supplied, we want to direct him there. Apply to our Employment Service, and we will tell where you can best serve the combined interests.

Western Canada's Help Will Be Required Not Later Than April 5th. Wages to Competent Help, $50 a Month and Up, Board and Lodging.

Those who respond to this appeal will get a warm welcome, good wages, good board, and find comfortable homes. They will get a rate of one cent a mile from Canadian boundary points to destination and return.

For particulars as to routes and places where employment may be had, apply to

U. S. Employment Service, Department of Labor

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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

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Type of Vigor; a Scrapper; Extra Strong Head; Short, Stout Beak; Fleshy Comb

Enlist the Incubator In War Work

QUICKEST WAY TO INCREASE POULTRY SUPPLY

W. C. SCHUMAN

Few experiment stations in the country have done more painstaking or unprejudiced experimental work in artificial incubation, in the last dozen years, than Mr. W. C. Schuman, the author of this article. His argument that good horse sense, in other words, good judgment and sound reasoning, have more to do toward achieving success than the machine, sounds good. Doubtless many, after reading this article, will give the old machine another chance and succeed.—The Editor.

INCUBATION of eggs must be the answer to the government's appeal for more poultry and poultry products.

There is a brisk demand for poultry and the average price paid for eggs during next winter may be higher than during the present season. To reap the benefit of this demand the city and rural breeders must produce a larger number of chicks, and produce them at such time as will insure egg production during the early months of next winter.

Where natural methods of incubation are followed early chicks are not always secured in good quantities. The breeder must await the conveniences of Biddy. To attempt to hatch a large number of chicks by the use of hens is a slow process. Artificial incubation must be resorted to in cases where early chicks are desired. One 100-egg machine will do the work of ten hens during the early hatching season. The machine is always ready, but we cannot always find ten broody hens at the proper time.

The artificial incubation of eggs in a high altitude does not call for any specially constructed incubator. For a number of years we were confronted with a problem that was difficult to handle, and several makers of incubators built machines supposed to be especially adapted for high altitudes, only to have their ideas "moult" under demonstration.

The three factors in artificial incubation are heat, moisture and ventilation, and while closely attached, may be treated separately in order to more clearly present the matter.

HEAT—Manufacturers differ slightly in their methods of distributing heat, but nearly all agree upon the advisability of maintaining a temperature of 103 degrees on the top of the egg. This would mean about 101 degrees at the center of the egg.

The highest degree of fever we ever obtained from a broody hen was by placing the bulb of a clinical thermometer against the bare breast, the result being 104.7 degrees. The eggs in contact with the bare breast of the hen were subjected to that degree of heat for half the time, while those in the outer circle were at least two degrees cooler.

Nature endowed the hen with certain instincts, and one of these was the regulation of heat. The hen moves the eggs several times daily, pushing the outer eggs toward the center and the inner eggs outside. This brings all the eggs into contact with the same degree of heat at least half the time, striking a general average of about 103 degrees.

Testing egg trays will show a variance of heat in different portions of the machine, and for this reason we are instructed to turn the egg trays end for end twice each day. The degree of heat maintained in the egg chamber has a decided effect upon moisture and ventilation, an excess degree of heat causing a too rapid evaporation of the egg. Animal heat in the egg begins to develop in twelve to fourteen days, after which time, with the same lamp flame, the heat in the egg chamber increases. The heat at the center of the egg is now more than 101 degrees, and the damper should be adjusted to suit the occasion.

Heat is not the essential that kills, as the germs will start at 100 degrees. Lack of heat means a delayed hatch.

A Much Discussed Subject

MOISTURE has been a much discussed subject in matters pertaining to incubation. Hygrometers, moisture fans, sand trays, damp blotting paper and various other devices for the supplying and regulating of moisture were urged, but the mortality at the supposed time of exclusion did not materially lessen.

When it is necessary to keep moisture in a machine it simply means that the ventilation is excessive, causing a rapid movement of air in the egg chamber and a too rapid evaporation from the eggs. The air is made heavier by the use of moisture, the movement of air is slower and evaporation is checked. Moisture will condense in the coldest part of a machine, after showing in beads on the glass door.

How many farmers have had hens hide their nests in the dry hay and bring off a good hatch? The surrounding atmosphere was dry and the nest was dry. It was not necessary to carry water sufficient to saturate the hay and the atmosphere. And under such conditions, where does all the supposedly necessary moisture come from?

As to the moisture in natural incubation, the Canadian experimental stations conducted tests along this line, finding that the quantity of air under a hen sitting on fifteen eggs amounted to 805 centimeters. The evaporation from the eggs in nineteen days was equal to 12 per cent of their weight, or 102 grams. It required but .045 grams to saturate the air under a hen, and the evaporation from the eggs was sufficient to saturate the air 119 times a day, or five times an hour. If the hen can hatch successfully in a dry atmosphere, it means that nature has furnished the egg with sufficient moisture to insure the successful exclusion of the chick when incubated under proper conditions.

In experimenting along this line we found it necessary to use moisture in a non-moisture machine and to abandon its use in a machine devised for moisture. This was due to the systems of ventilation. Where one can hatch successfully without the aid of moisture it means that the ventilation in the machine is suitable to the locality. Where moisture is necessary it simply means that the movement or air is too rapid.

This Is the Essential

VENTILATION—Here we have the one great essential in artificial incubation. Heat we can readily secure, and a bucket of water can easily be poured into a machine. Heat and moisture have been talked of so much that the most important matter has been pushed to the rear.

We must remember that each machine has a ventilating system adapted to its needs at the point of manufacture. By moving it to another locality we may encounter similar conditions. If so, we are just as successful as tho the maker were handling the machine. If one watches a hen closely it will be noticed that the supply of fresh air is plentiful, but without any direct currents of air passing over the eggs. Every time a hen breathes there is a slight movement of the feathers; every time she moves there is a slight expulsion of air from the nest; every time the eggs are turned the old air is excluded and fresh air is taken in. There are no currents of air passing beneath the hen. This is nature's method of ventilation.

Man's methods of ventilation differ. Some machines have partly open bottoms; in some the fresh air comes down over the eggs thru a diffusion cloth; some are ventilated from top to sides, while in some the ventilation is from side to side thru auger holes. All systems may be correct—if adapted to the locality in which the machines are operated.

A too rapid movement of air in the egg chamber is detrimental to the growing germ. Excessive ventilation causes this rapid movement, even tho the fresh air is heated before passing thru the diffusion sheets, and when the machine is freely ventilated by means of holes in the sides and operated in a cold atmosphere, the cold air coming into contact with the heated air will also cause a rapid movement in the egg chamber.

Proper ventilation means a proper "drying down" process, but does not mean absolutely pure air. The air in a hen's nest is not pure, and tests have shown that the air in machines is much purer than that under hens, good hatches having been reported where the nest tested 103 parts of carbon dioxide to 10,000 parts of air, while poor hatches were reported from machines averaging but 24 parts of carbon dioxide. In our own experiments we have placed bad eggs in a machine, the heat causing the contents of the egg to ooze thru the pores. The odor was not pleasant, but it did not appear to injure the growing embryos. Neither will it under hens.

Should Be Studied

When a machine is operated in a damp, cold atmosphere with poor results, better results are obtained by moving the machine to a drier and warmer atmosphere. If results are not secured because of the change, then the system of ventilation is not adapted to the locality, and the operator must begin to study ventilation.

In one make of machine that produced negative results all ventilating holes were closed. A frame was made to fit inside the door, both sides of this frame being covered with muslin. The door was allowed to remain open during the day and closed at night. This was indirect ventilation, as the impure air could escape from the machine thru the cloth, while there were no currents of air passing over the eggs. The egg tray was turned end for end twice each day and the inner rows of eggs moved to the outer edge, thus bringing all the eggs under the same conditions at least half the time. The results were much better. This plan afforded an ample supply of fresh air without a current and moisture was not necessary.

To operate a machine in a fairly warm and uniform atmosphere means a low lamp flame, a conservation of oil and a slower movement of air within the egg chamber. The colder the outer atmosphere the more heat we must force into the machine and the faster we force the heat into the machine the more rapid will be the movement of air in the egg chamber. And here we often meet disaster, as rapidly moving air seems to be injurious to the developing embryo. In a machine where the movement of air was fairly rapid from top to bottom, better results were obtained by laying a piece of coarse cheese cloth over the eggs for ten or twelve days. This broke the downward current of air, prevented the five-day death rate, conserved the moisture and protected the germs during the early stages of incubation.

Nature evidently intended the air cell for the needs of the growing chick. We have coated the large ends of eggs with shellac and could not get the germs beyond the twelfth day. Coating the small ends of other eggs at the same time did not prove injurious. Sealing eggs in air-tight rubber bags proved that the germ could not be developed beyond the tenth day.

We are often told that the germs are weaker after the hens have been producing for a long period. We produced better results after the hens had been laying all summer, by changing the ventilation, than we could produce at the beginning of the laying period with faulty ventilation.

Turn Eggs Frequently

Eggs should be turned frequently. This prevents the yolk from settling and adhering to the shell. It also means cooling and ventilation.

Ventilation is all-important. Any old box that can maintain the proper degree of heat should be made to produce chicks. They are all good. In some the ventilation will be suited to the locality and some may need to be changed. If fairly successful, continue so. If unsuccessful, begin to study the ventilation. But always bear in mind that it is unreasonable to expect a machine to hatch in all localities and under all conditions with a fixed ventilation. This is often exemplified. A. may fail with a machine when operated exactly according to directions. He may become disgusted and

Turn to Page 11

Pinto Bean Crop Turned Over to the Government

FOOD ADMINISTRATION AGREES TO BUY UP ENTIRE SUPPLY

BY the time this is being read it is expected that fully 75 per cent of the pinto bean crop will be contracted for by the growers to the United States Grain corporation at a price of 8 cents on a re-cleaned basis. As announced in our issue of February 15, the Food Administration had in preparation a plan for absorbing the entire crop. The details of this plan were made public about the middle of the month. At a meeting held in Denver, February 16th, county agricultural agents from the bean districts of Colorado and Wyoming were given copies of contracts to be passed onto the growers, turning the beans over to the government at the agreed figure. Another meeting was subsequently held at Albuquerque, at which the New Mexico county agriculturists were familiarized with the plan.

Meetings were also held with shippers belonging to the Rocky Mountain Bean Jobbers association and the government's offer of a 10 per cent commission for handling was accepted.

This left the matter up to the growers, who, no doubt, have willingly agreed to sell their crop on the basis specified, the price being fair to all concerned. The Food Administration is urging eastern markets to use pinto beans in preference to white beans, and is using pressure to keep the eastern retail price down to 12½ cents, so that the consumer will be interested. The consumer thus will obtain a nutritious, palatable food product every bit as good, if not superior, to the navy bean, at a price of at least 5 cents a pound less.

Mr. J. B. Lamson of Chicago is handling the Washington end of the publicity campaign for introduction of pinto beans and the purchasing end is in charge of O. H. Liebers, with offices at the Colorado Food Administration headquarters in Denver.

Under the plan outlined there is no reason why farmers should not again put in a large acreage of beans. They were assured of a fair market and good prices last spring and while it looked for a time as tho these promises could not be made good, the situation has changed so favorably in the last month that growers, as a rule, will meet the government half way on the acreage proposition.

Every consideration of patriotism and loyalty demands aid from the farmer in producing food crops. The situation in relation to the world's food supply is more serious right now than it has been since the outbreak of the war. The farmer is taking no chance with markets for the food he will produce in 1918, and prices are adjusting themselves. There is every prospect of an increase in the wheat guaranty and it is not improbable that beans and some other products will be grown at a fixed figure this year. Even if not, the influence of the Food Administration now enlisted in behalf of the pinto bean, is sufficient to make it advisable to again put in a large acreage.

Western Farm Life has been "on the job" in the farmer's interests, in regard to pinto beans since early last summer, when we saw that the crop would be extraordinarily large. It will not be necessary to detail here all the steps that have been taken, but a letter written last July will be sufficient to show how the compaign for recognition of pintos was first set in motion.

We merely added our influence to that of other forces working in the same cause, notably the Agricultural department of the C. B. & Q. Railway, which was swallowed bodily by the Food Administration. Messrs. Lamson and Liebers being now in the service of the government.

It may be well to remember that the results finally accomplished were not due alone to the insistence of our growers on a fair price, but to the urgent need for food. In other words, this is not a charitable effort on the part of the government, but an answer to the demands that must be met if the war is to be speedily won.

Following is a copy of the letter above mentioned, which, as stated, marked the beginning of activities in behalf of direct buying as first suggested by Ex-Governor Ammons:

July 23, 1917.

Mr. Herbert C. Hoover,
United States Food Commissioner,
Washington, D. C.

Dear Sir: At the urgent request of the federal government the farmers of Colorado and other western states have greatly increased their acreage of food crops. Mr. Vrooman, now on a tour of the west, undoubtedly will bear out the assertion that the increase in the sparsely populated states, where there is considerable idle land available, has been fully 25 per cent over previous years.

Because of our comparatively sparse population we will have unusual quantities of such staples as wheat and beans to ship out. Our farmers are somewhat upset just now concerning a possible market, especially because they must, of necessity, sell their crops immediately after harvest. High prices for everything that goes into the making of a crop and the fact that they have, as a rule, neither reserve capital nor storage facilities, will put these farmers at the mercy of the speculator in food crops, if some drastic step is not taken to prevent it.

Ex-Governor E. M. Ammons, a member of the Colorado State Board of Agriculture, the governing body of our Agricultural college, and himself a farmer, makes the suggestion that this situation offers opportunity for the federal government, thru the commissary departments of the Army and Navy, or thru your office, to buy our surplus products directly from the producer, immediately upon harvest. I can assure you that the farmers will part with their products at a reasonable market value. They will prefer to deal directly with the government, which is amply able to make these purchases and store the staples until needed.

I will not burden you with any further details as to how the plan may be worked out, but wish to submit it to you for earnest and prompt consideration, in line with the government's policy to conserve our food resources and assure our food producers of a fair return, so that they will be as willing this fall to prepare for another large acreage, as they were during the past spring.

The matter requires quick decision, for sowing of the 1918 winter wheat must begin in a few weeks. Much depends upon the reception the farmer's increased food crops get on the market in the immediate future.

Please let me have your views and suggestions in regard to this matter. We wish to do what is best for humanity, but I realize, and I know you do, that food production must be maintained on a commercially paying basis in order to accomplish the desire to keep a starving would supplied with the absolute necessities.

If the farmer is compelled to repeat his present experience during another season he will naturally lose interest in increasing production. I refer to the fact that he received on an average of $1.35 a bushel for his 1916 wheat and bought back the flour on the basis of $3.50 wheat, the difference going to the middlemen along the line. All he asks now is a chance to sell the raw product at a reasonable figure to a responsible authority that will turn it directly to the consumer, and thus cut out illegal profits, which hurt the farmer as much as anyone.

Yours truly,
WESTERN FARM LIFE,
Alvin T. Steinel, Managing Editor.

Food Administration Statement in Regard to Acreage

The Food Administration wants it clearly understood that the eight cent price applies only to the present 1917 crop. There is no guaranteed price for the 1918 crop, but if farmers co-operate in the present plan and sign contracts with the Food Administration to sell their beans at eight cents, they will receive the benefit of the publicity and introductory work which will be done by the Food Administration in the way of creating a permanent market. Work done this year in creating a demand for pinto beans in consuming centers in the east should develop a permanent market so that the price for the 1918 crop should be sufficient to enable farmers to make a very fair profit over the cost of production. The Food Administration desires farmers to appreciate that the lack of demand for the present crop is not due to an over-supply of pinto beans or to an inferior quality of the pinto, but due solely to the fact that the pinto is not known in consuming centers and to the habitual demand on the part of the general public for white beans.

There is no question as to the need for food stuffs for ourselves and for our Allies. The food situation in Europe is acute and the Food Administration is spending every energy to supply our Allies amply with food stuffs. In this connection the Food Administration urges farmers to save out sufficient beans to be used for seed for a large acreage this spring. The beans used for seed should be recleaned and farmers should appreciate the fact that it will pay them to hire their beans recleaned in order that they may be put in proper shape for planting. The Food Administration will sell farmers whatever seed is needed at cost price, but does not wish to handle any more beans in this way than absolutely necessary. Growers should provide seed now.—J. B. Lamson.

Fruit Growers Using Traps for the Codling Moth

SPRAY AT THE RIGHT TIME AND THEN BAND YOUR TREES

ALFRED M. WILSON

TO spray at the psychological moment and in the right way and to follow up with the use of bands—that has been the way in which in the past the best orchardists have been combating the codling moth. Even so, it has been uphill work, uncertain in its results, for the codling moth is largely a law unto itself, having ways at times of outwitting the orchardist and of bringing to naught his most carefully laid plans. Evidence of this fact is to be found in the ravages of the pest in the Grand Valley during the past season. Notwithstanding the fact that the orchardists, as a rule, put on the usual number of sprays and the requisite pounds of lead arsenate, the results were conflicting and unsatisfactory. They are, therefore, in a mood to welcome any device, old or new, which holds out the promise of greater effectiveness in their fight to control the codling moth and to keep his pernicious activity within bounds. This should incline them to give a fair trial to the traps for the codling moth, the latest device—I had almost written the latest fad—in this line. But whether these traps are destined to come into general and permanent use remains to be seen. At present they are in the experimental stage.

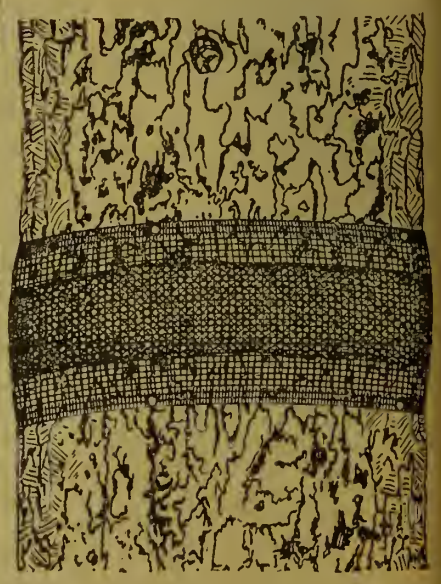
During the past three years the U. S. Bureau of Entomology has been conducting. in the Grand Valley, investigations into the life habits of the codling moth. During the first year E. M. Siegler was the sole representative of the bureau. During the second year M. K. Plank was associated with Mr. Siegler in the work. During the past season Mr. Plank was in sole charge of the experiments.

It was Mr. Siegler who hit upon the idea of trapping the moths and who worked out the plan for the traps now in use. He published the results of his investigations in the Journal of Economic Entomology for October, 1916. In December of the same year he read a paper on the same subject before the American Association of Economic Entomologists in New York City.

As a result of his investigations the past season, Mr. Plank is supposed to have secured some new light upon the codling moth tap, but what that light is will not be known until the results of his investigations, which have already been sent to Washington, have made the official rounds and been at last printed in an official bulletin. In the meantime the codling moth will not be subject to any greater restraint than in the past, but whatever the inconvenience or loss to the grower, the Official Red Tape, in which the Department of Agriculture only too frequently gets entangled, must not be shortened, much less cut out. In the present case, however, the temporary loss to the grower due to departmental insistence upon due homage being paid to the god of Red Tape will probably not be very great. The writer had the privilege of interviewing Mr. Plank just before the latter left the valley for the northwest. Mr. Plank could not affirm; he could only deny. It was evident, however, from his denials that what he had found out concerning the use and make of the codling moth traps was not revolutionary—that it would not render obsolete, even before they had come into use on an extensive scale. the traps made on the line suggested by Mr. Siegler.

Are Simple Contrivances

The codling moth traps are simple contrivances, made out of twelve-inch mesh wire screen cloth. The wire known to the trade as Japan wire is said to be better adapted for the purpose than galvanized wire. The wire is first cut into strips six inches in width. The two edges of each strip are then folded in slightly. The "folding in" or "crimping" may be done by hand or by machinery. The crimping by hand is a somewhat tedious process, impracticable when traps by the hundred are to be made. The proper crimping can, however, be effected by running the strips thru a "crimper" such as is used by any tinner. The strips, after having been properly crimped, are cut into the desired lengths, ready to be placed in position on the trees over the bands. In other words, the traps do not displace the bands; the traps supplement the bands and make them more effective. The use of bands, as every orchardist who has used them knows, is of great help in the fight to get rid of the codling moth. But every such orchardist



Trap for Codling Moth

also knows that the bands, unless they are properly cared for, may become sources of infestation; but this element of danger may be avoided when

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J. S. Government Ships 1,500 Tractors to France

MACHINES WILL HELP PRODUCE FOOD FOR OUR FIGHTING MEN

HENRY MORGENTHAU, Jr.

Editor's Note: The idea of re-iforcing the agricultural strength of rance with American tractors origi-ated with Henry Morgenthau, Jr., ho writes this article. Mr. Morgen-is the son of Henry Morgenthau, er American ambassador to Tur-ey He has been commissioned by he United States Food Administra-to follow the machines to France nd put them in operation. This ar-le was written just before he left Europe.

The idea of wholesale tractor farm-under government supervision nd subsidy, as it will be applied in rance, is exactly along the lines uggested to the United States De-artment of Agriculture a year ago y Mr. W. S. Edmiston, General Man-ger of Western Farm Life, to be pplied to the millions of acres of le plow land in the western part f the United States. Unfortunately he idea has not been acted upon.

AMERICAN tractors—1,500 of them sent by the U. S. Food Admin-istration, will battle hunger in ance. When spring comes they will in the field. French crop produc-n in 1917 was more than one-third s than in the year before the war. able-bodied Frenchmen up to fifty ars of age are fighting, and tho the men, children and old men have de heroic efforts to maintain the ag-ulture of the country on a normal sis, the burden has exceeded their ength and endur-ce.

One acre out of ery four in ance now lies e from sheer k of man and imal power to w, seed and har-st crops upon it. this expedition 1,500 farm trac-s and plows with perts to put in operation, t only will in-ase the French rvest in 1918, but presence of se powerful m machines pre-ring their land crops will cheer ench hearts.

French High-Com-ssioner M. Tar-u approved the idea on behalf of the French govern-ment and we are assured that the ordering of these tractors at this time will not in the least impair the sup-ply for our own farmers. Manufac-turers have ample time to produce ad-ditional tractors for the American de-mand.

The first 100 tractors were sent to France on the deck of a naval transport and the entire number will reach there in plenty of time for spring plowing. Purchase, shipment and transportation of 1,500 farm tractor outfits to France would in time of peace be a comparatively simple mat-ter, but today it is made difficult by war restrictions and many unusual conditions. All these obstacles have been overcome in the case of these tractors.

The tractors will operate mainly in the battle-scarred portion of northern France which has been re-taken from the Germans. There property lines have been largely obliterated. The fields are consequently large and the batteries of tractors will be able to work most effectively. Thus in a few months food crops, especially wheat and potatoes, will be growing in French soil plowed by American trac-tors—soil that a few months ago was the "No Man's Land" between the great battle lines.

Under Government Subsidy.

..The size and significance of this tractor enterprise is, however, more striking than the mere presence of American tractors in France, as the French have, for several years, been operating American-made tractors. With characteristic thoroness they have kept careful records of the work accomplished, fuel consumed, repairs and other details.

Satisfied with the general results, the French government, by legal enact-ment January 2, 1917, created a credit of $6,000,000 for subsidizing agricul-tural co-operative societies and groups of farmers for the purchase of trac-tors. In some instances the govern-ment had advanced 40 per cent of the price of the tractors to aid and en-courage farmers in securing them.

The tractors and plows in this ex-pedition are being purchased by the French-High Commission with money loaned to them by the French Treas-ury Department, and the expense of the mechanics who accompany them is being met by adding a lump sum to the purchase price of the tractors. Judging from past experience these outfits will plow about half a million acres for wheat, potatoes and sugar beets this spring, and a million acres for fall planting of wheat.

Using Tractors in Groups.

When operated in large fields, as in the re-conquered zone, the tractors work in batteries of ten, preferably all of the same make. With each battery there are ten drivers, two blacksmiths, two mechanics, one cook and a man-ager in charge who has a clerk to as-sist him. In addition there is a field man who lays out the work for the tractors; and several motor trucks which serve as workshops or for haul-ing provisions, repairs, fuel and sup-plies.

Machines of medium size and rela-tively simple construction have been selected. They are of the 9-18 and 10-20 horsepower sizes. The plows used are self-lift gang plows having three 12-inch bottoms.

These batteries of tractors are sub-ject to the orders of the Minister of Agriculture, notwithstanding the fact that 75 per cent of the operators are soldiers. The problem of getting com-petent operators and mechanics has been one of the most difficult to solve. Mechanics at present employed on the batteries of tractors either are men relieved from military obligation, wounded men who have not regained their strength, or in-experienced young men below draft age. The Agricultural Service also has sought to employ as mechanics cripples from the re-education schools, who have studied me-chanical courses for a few weeks.

The U. S. Food Ad-ministration's trac-tor expedition will include a limited number of experi-enced mechanics, who will help super-vise and instruct the French in the opera-tion of the machines. It is planned to or-ganize the 150 new

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Farmers Attending Tractor School Held During Farmers' Congress at Fort Collins

Plowing In the Nick of Time on Mountain Farms

PRACTICAL ADVICE FROM A RANCHMAN WHO FOLLOWS THE PLOW.

GORDON KENT

PRING in the mountains is a tricky affair. March is a hard frozen month. May is a mush ne is a drying kiln. April is a amble of all kinds of weather. The al business of plowing and planting st be squeezed in between bad spells nehow.

Date for date no two years are alike ciurse. Yet by comparing one year th another we may know what to pect. Up to the first of April the und is frozen. The temperature at ht hangs around twenty degrees ve zero. On the night of April 1, 5, it was twenty-two. On April 1, 6, it was twenty, and twenty in 7.

n 1915 and 1916 the temperature nt up to 58 degrees during the day. e first ten days of April sees the vent of spring. The earliest high nperature in 1915 was seventy de-es on April 14th, in 1916 it was ty-seven degrees on April 11th, and ty-four degrees on April 8th, 1917.

The ground thaws and softens. arm spells lasting from three to ven days, now alternate with snows d rains till the first week in May. e snows vary from one to six inches d do not lie long on the ground. me days will see sunshine, fog, n hail and snow all in the one day. e characteristic spring rains are zzles with fog. The first half of y brings heavy wet snows, from four to eighteen inches deep, alternat-ing with clear intensely hot days. The rapid thaws raise the rivers, and put mud holes in the roads, and bogs in the fields.

The last heavy snow in 1915 was six inches on June 6th, exceptionally late. In 1916 we had a snow on May 19th, and by June 6th crops were in need of irrigation wherever it was to be had. However a heavy shower on June 11th was the salvation of the crops. In 1917 the last snow fell May 31st. When it quits snowing we are due for forty to fifty days drought. There is no tapering off. Spring snaps off sud-denly and summer begins.

So much for the average weather.

The first land to be ready to plow is the slope with a southern exposure and a sandy soil. This is the kind of land that suffers most from drought. To plant it late would be waste of labor and seed. It must be planted as early as possible so that the crop can get a good start under moist condi-tions. The early growth holds the snows, and the moisture from them sinks in instead of running off. By the first of June there will be a thick stand to shade the ground and retard the evaporation. If the young grain is frozen down in April and May each sprout will stool and make a thicker stand than it would have otherwise.

There is very little of the time that sloping and light land cannot be worked, once it thaws out, but it is best to break it at the earliest oppor-tunity so as to be ready for the bot-tom land. There are sure to be sev-eral chances to plow the slopes, but some years there is barely one good chance to plow the bottoms.

And that is the real problem of spring work in the mountains—to catch the bottom lands. They are low and cold. There is a greater percentage of moisture in them. So they are frozen harder and deeper. When they first thaw out they are drier than they will be after the spring rains and snows fall on them. They will thaw before they get soaked. While they are thawed, and before they get soaked is your chance.

Suppose you miss it, because you are busy with something else, or fail to observe the condition of the land till the favorable time has passed, what happens?

Your low fields, the richest on your ranch, will soften with every snow un-til you will not be able to put a team on them. There is no solid subsoil, no bottom. I have seen horses go right in up to the body. You can only wait. May goes and June comes. It is late to plant anything. I have seen land that could have been plowed in April become a bog in May and stay too wet to plow till the middle of June. It is a good productive piece of land, but what chance has a crop got that isn't planted till the twentieth of June, well on into the dry spell?

Seasons differ, of course. But if you don't plow in April the chances are you can't plow in May, so you have to plow in June in baking hot weather. It is killing on the team. The ground dries out rapidly between plowing and harrowing. Some seeds don't germi-nate at once for want of moisture. Those that sprout have to wait six weeks for rain before making headway. That delays it so that in the fall the grain is only in the milk, and when you cure it it dries out to nothing but husks and the feeding value is sadly lowered.

So do your spring plowing in the nick of time, and the nick of time oc-curs in April. It may not be settled weather, but you can't wait for that. Take the chance when it offers. Shakespeare never gave better advice than when he said:

"There is a tide in the affairs of men,
Which taken at the flood leads on to fortune."
"And we must take the current when it serves
Or lose our ventures."

Corn Growing on the Dry Lands

SPRING TIME HINTS FOR ROW CROPS

E. R. PARSONS

The raising of corn in the dry farming country is becoming more and more popular every year and we are now raising 40 and 50 bushel crops in place of the 20 bushels we used to raise a few years ago. Sixty and a hundred will be produced in another decade.

We still have the freak methods with us of listing corn without plowing and even planting on grain stubble. Last season showed what they were worth. The best average crops have always been obtained when the ground is plowed deeply in the fall and the seed corn listed in across the plowing in the spring. The roots then have two run-ways to follow: east and west with the plow furrows, and north and south with the lister furrows.

On slopes where the soil wastes the planter should be used in preference to the lister, for a spring freshet may fill the furrows with mud and water, and smother the corn.

Fairly good corn may be raised on the spring fallow and should be drilled in at the rate of one grain every two feet. If the seed does not germinate well under test, two may be planted, and then thinned down to one in a hill after the plants come up.

Fertilizing i the row will often increase the yield by from 5 to 8 bushels. It may be accomplished by a planter made for the purpose with two sets of containers from which it plants seed and fertilizer at the same time. The ordinary planter may be used by making two operations of it.

It is a question at present prices as to what fertilizer to use, but the cheapest for what it will accomplish is undoubtedly acid phosphate, either for corn or wheat. Blood and bone and nitrate with acid phosphate make a good combined fertilizer, but the price is higher. For using in a planter all fertilizers must be in powder form and dry.

The writer is glad to learn that the corn clubs are taking up Minnesota No. 13 as good type to develop in the mile high dry farming belt. It has deep kernels, the maximum number of rows for a short season corn, and it often bears two good ears to the stalk. If this two-ear habit can be permanently fixed it may easily mean more than 60 bushels per acre. With rows 3 feet apart and the stalks two feet apart in the row there are about 7,000 stalks. At two ears to the stalk the total would be 14,000 to the acre. If these weigh half a pound apiece (ears have been raised of acclimated corn weighing a pound each), it would mean 7,000 lbs. ear corn to the acre. If they average half a pound the crop would be in the neighborhood of 50 bushels.

The preparation of the land for Sudan grass and sorghum crops should be about the same as for corn, only that the best and earliest plowing should be used for the latter, and the later plowing for Sudan grass, sorghum and corn for ensilage.

Starting the Dry Farm.

I have a homestead in Morgan County and will move on it in March. I have about 50 acres under fence and 30 acres of that has been cultivated. About 10 acres was broken up in the spring of 1916 and the rest was broken in the spring of 1917. What I wanted to know was how to prepare the same ground next spring. Of course I intend to plow the remainder and work the whole 50 acres. I intend to plant 3 acres to Sudan grass, 10 acres to cane, 15 acres to corn White Australian and Yellow Dent from seed I have engaged in the neighborhood , and about 15 acres in pinto beans. I haven't a disk. Will it be as good to use a one-horse cultivator instead and put two horses on it and go over the old ground two ways ? The cultivator has shovels on it. Do you think that will be as good as double disking? I am thinking of trying some sweet clover or alfalfa. Also tell me about potatoes. Do you think there is any chance of getting a permanent pasture suitable for hogs? The land is pretty sandy but all crops have done fine considering the dry weather we had last summer. I have been thinking of trying Brome grass as a pasture. I would like to hear from you before I try as I always read your articles and am always interested to know that people are learning more than the farmers of 15 years ago ever thought.—M. L. B., Denver.

Land which was broken in 1916 or 1917 three or four inches deep would not raise fair crops in 1918 without further plowing. The first thing to do after moving on to a dry farm is to have all the fields plowed as deeply as possible, in order that moisture may be saved and carried over from year to year, when the subsoil gradually takes on a permanent moist condition and the raising of good crops becomes a matter of course.

The land especially for the beans should be well disked and plowed at the earliest possible moment, so that an interval may elapse between plowing and planting for the accumulation of some moisture. Alternate disking and harrowing at times during this period will exterminate the weeds and provide a well settled, mellow seed bed.

The later plowing should be used for corn and then the Sudan grass, in order to give the beans the best chance, for early plowing is always best for everything. Alfalfa does best on land plowed deep in the fall. The safest way is to plant it in rows and cultivate it. Sweet clover is usually broadcasted. Neither of these yield anything the first year. April is the best month for planting.

Plant very few potatoes unless you are in a good potato belt. These also do best on fall plowing. The Early Six Weeks may be planted in April, the others in May or June.

The only way hogs can be successfully pastured on the dry farm is to divide of a well-established alfalfa field into lots and move them from one lot to another when the alfalfa is not less than a foot high. When feed becomes short they will root and destroy the stand. Bromgrass does very well in some low rich sandy soil, but does not stool well and

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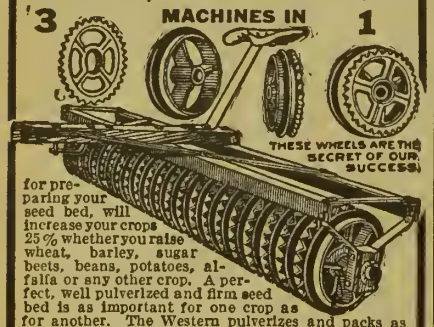

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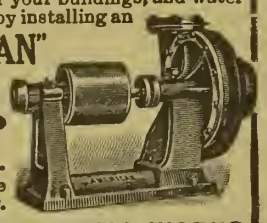

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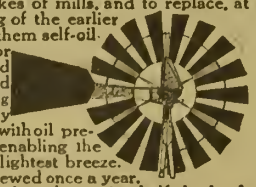

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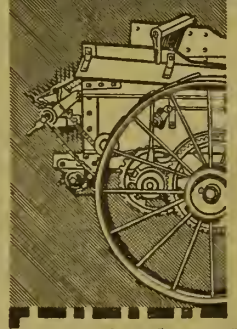

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Dogs Menace Sheep Industry

A few weeks ago a farmer near Fort llins suffered a loss of nearly 300 ıbs in one night thru the depredaıns of dogs. The dogs got into the d lot where the lambs were being tened and stampeded them, rushing m down a slope at the foot of ich they were piled up in heaps, angling, crushed, many killed outht and others wounded so that they l to be put out of their misery. mparatively few were directly killed the dogs, most of them dying in the ısh. The owner's loss amounted to ndreds of dollars.

Incidents of this kind are common, it is not often that one owner suf's such a loss in a single night. The nace of the useless cur on the farm a serious one that demands drastic islation. In Great Britain the probn was met many years ago by strict gulation of dogs in the rural discts, with ample protection for ined sheep dogs. Following is a gest of the English laws as taken m a report of the Canadian Bureau Agriculture:

Dog laws in Great Britain are very nple and very effective. In England d Scotland the license fee is 7 shillgs and 6 pence ($1.80) a year. Everye must pay this license, rich and poor ke, because the law is strictly enced. Sheep dogs, however, are empt under certain conditions. If a rmer can prove that he has sufficient eep and cattle to make it necessary r him to keep a trained dog, he aes for an exemption form and fills out. When this has been handed to e officer in charge of the nearest ind revenue office, he gets an exempn certificate for that year. If the rmer keeps a sporting dog or a pet g no exemption is granted.

In Ireland the license fee is 5 shillgs ($1.20) a year, and no exemption atever. Blind persons in any part of e United Kingdom can also obtain an emption certificate, providing they n satisfy the authorities that they ssess a dog trained to lead them on e highway. The license is not colcted for pups under 6 months old, d special arrangements are provided r registered packs of hounds. censes are issued at every postoffice, at the inland revenue office. Every g must wear a collar, to which is atched a small brass disk bearing the vner's name and address and the cense number.

Sheep worrying by dogs is scarcely own in agricultural districts, and ost farmers we interviewed had never d a case of this nature. In some calities adjoining towns and villages ey are not so free from this trouble. uch cases are mostly found in consted mining districts, where useless ie dogs are often found. Sporting gs are also a source of danger, but y are usually well guarded.

Whenever a case of sheep worrying es occur, and the dog is caught in e act, he may be shot at once, but in ses where valuable dogs are caught mischief, such as fox hounds, the rmer generally traces them to their wner, who gladly meets all the farm's claims rather than suffer the loss the dog. When, in other instances, ses are taken to court, if ownership the dog is proved, and also that the aid dog committed the damage, the g is ordered to be destroyed and the owner obliged to settle damages in full. Claims for losses may be settled thru the county council, but the law is so well observed and loss so rare that private settlements are the general rule.

Pine Trees for the Plains

The state forester has secured 5,000 western yellow pine trees four years old, height about 12 inches, two years in the transplant bed; also 5,000 jack pine, ten inches tall, all good, vigorous stock grown by U. S. Forest Service in Halsey, Nebraska. This stock will be sold at cost to anyone in Colorado desiring to grow these two species. The cost, including delivery to the purchaser, is placed at one cent a tree in lots of 25 or more and a special price of $7.00 a thousand for the yellow pine and $7.50 a thousand for the jack pine in lots of 500 or more.

The purchaser will agree to report annually to the state forester for a number of years regarding the results of the planting. This is a condition required by the U. S. Department of Agriculture, and one which will give the State Forester information he desires to have.

The orders, with remittances, should be sent to the State Forester, Fort Collins, Colorado, immediately, as the trees should be planted soon after March 1. This stock is suitable for planting in most parts of the Plains region in Eastern Colorado.—W. J. Morrill, State Forester, Colorado Agricultural College, Fort Collins, Colorado.

Profit in Pork Production

Farmers have been asked to increase pork production by breeding more sows and by feeding the present supply to greater weight. Will it pay to feed hogs at the present prices of corn and hogs? This question is answered by the experience of actual feeding operations. The University of Missouri College of Agriculture conducted a feeding experiment last summer to obtain information which would answer such questions. Seventy-three head of Poland-China pigs, farrowed in April and May, were placed on feed about July 1 so that they could be marketed during the International Livestock Exposition at Chicago the first week in December.

These pigs weighed 34 pounds each when started on feed. They were full fed on corn 9 parts, shorts 2 parts and tankage 1 part. The shorts and tankage were fed in a slop once each day. The pigs were on rape forage until the forage was exhausted. Corn was fed by hand twice each day.

A summary of the grain fed and gains made shows that these pigs made a pound of pork on 3.9 pounds of the grain mixture. Figuring corn at $1.40 per bushel on the farm, shorts at $2.75 per hundred, and tankage at $90 per ton, the gains cost $11.15 per hundred, not including the rape pasture.

The pigs weighed 202 pounds per head on the Chicago market, and sold for $18.50 per hundred. Allowing $2 per head for pasture for the season, and not including marketing expense, these hogs netted $10.34 per head, or a total of $754.82 clear profit. Had these hogs sold at $16.50 instead of $18.50, the profit would have been practically $7 per head. Figuring corn at $1.68 per bushel instead of $1.40, the profit is $7.72 per head at a selling price of $18.50, or $4.36 per head net when sold at $16.50.

These figures do not illustrate extremes, but rather the average of what may be expected by good feeding and management. The rations used and method of feeding are common to every good feed lot. Following such practice is the surest way to profit in the hog business.

Twin City Tractor Show

The greatest show of the kind ever held in the northwest closed on February 9. The annual auto and tractor show was held at Midway between St. Paul and Minneapolis from February 2 to 9, and was attended by more than 178,000 people during the week. Sales of accessories, trucks, passenger cars, and tractors aggregating $1,000,000 were made. The sales of farm tractors alone amounted to $200,000.

It was estimated that over 200 farm tractors were sold. The tractor exhibit was one of the remarkable features of the show. Hundreds of farmers from all over the northwest were interested in the tractors and those who purchased nearly all paid cash. Many more sales will be made as a result of the show. Many trucks were also sold, which shows that this method of transportation is rapidly coming to the front. Business in passenger autos amounted to $425,000.

The Overland Auto company building in which the show was held, is the largest automobile show building in the country and the three floors, as well as the basement, were utilized by the show. The attendance this year was about double that of any other year.

The United States Food Administration exhibit was an education in itself. This department was in charge of A. D. Wilson, state food administrator for Minnesota. More people were probably reached than could have been reached in any other way, and the gospel of food conservation and the elimination of waste was emphatically impressed upon thousands thru the medium of the food exhibits and demonstrations.—T. S. Parsons.

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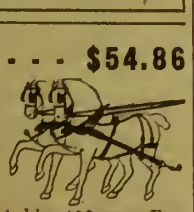

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ELIAS M. AMMONS.....President
W. S. EDMISTON.....General Manager
ALVIN T. STEINEL..Managing Editor

DEPARTMENT EDITORS

E. R. PARSONS.....Dry Farming
GEO. E. MORTON..Dairying and Hogs
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MRS. H. T. FRENCH.....Home Dept.

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Our Cover Picture

The handsome pullet shown on the cover of this issue is the property of Mrs. Ida Loving, Pueblo, Colorado. This White Wyandotte pullet secured second prize at the Denver Stock Show, and is a sister of Colorado King, winner of $100 Sweepstake and Shape Special at the big poultry show at Kansas City, 1917. She was one of the ten birds entered by Mrs. Loving at the stock show and the total winnings were first, second, third and fifth cockerel, and second and fourth pullet.

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Inspect Your Implements

Right here and now make a mental note to go over your machinery and implements at once, to find out what repairs you may need, or what new purchases you must make in order to be in shape when actual spring work begins. The week of March 1st has been designated as National Implement Inspection and Repair Week. You will not be called up and solicited to do the very necessary thing suggested at the opening of this article. These words are your notice and you, as a careful farmer, will realize the necessity for action that will save delays later, when you can ill afford to wait for missing repairs or slow shipments of new implements and machinery. This hint ought to be sufficient. DO IT NOW.

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Tractor Service Bureau

Hundreds of our readers are availing themselves of our Free Service bureau, thru which questions about farming are answered. This service is being improved and extended, the latest addition being a farm tractor department. At present it is not possible to devote space to this subject in every issue, but this will not interfere with our question department. Tractor owning farmers may feel free to bring us their problems in tractor operations and handling. Such questions will receive expert attention and reply by letter or thru the columns of the magazine.

It must be understood, however, that we cannot advise a reader as to which particular make of tractor to buy. Such questions can only be referred to various manufacturers to answer. Questions should be confined to matters relating to tractor troubles, the care and handling of the machines and the use that can be made of them in the various processes of farming.

Letters from tractor using farmers giving their experience with the machines, whether favorable or otherwise, will be helpful.

Nation Needs the Farmer's Help

This is the time to lay out a program for spring planting. It was at this time last year that the first organized efforts were made to secure a largely increased acreage of food crops. A month later the entry of the United States into the war made such action imperative. The results, so far as larger production is concerned, were splendid. The farmers did their work and did it extraordinarily well. This is especially true of the Western states where the increases in acreage put under the plow varied from 20 to 40 per cent.

When it comes to consideration of the returns per acre, in money value, or in yields there were many disappointments. There is no good to be got out of reviewing crop history for 1917. Let it suffice to say that the bulk of food products raised was great in the aggregate, but there was not enough to keep the pinch of hunger from some of the European countries that we are pledged to help. As for ourselves, we have fared exceedingly well. We have had no hardships to undergo, such as befell our own pioneering fathers and grandfathers in this western country half a century ago. We have had to forego some luxuries and to put up with some inconveniences, but this has been disciplinary and wholesome.

Many farmers have voiced complaints about the harvest labor shortage, the slowness with which their beans moved, the short profit in wheat or sugar beets, the high cost of things they have had to buy, the gouging of middlemen, the unjust exactions of dockage on grain, the high price of corn in spite of an enormous crop, the slump in prices of finished beef, the uncertainty of the lamb market and a dozen other difficulties. Western Farm Life has given these complaints due attention, either thru publication and discussion of the various problems, or thru taking them up with the authorities in such a way as to get results. We have done this willingly, as a part of our mission, which is that of furnishing the farmer with a means of expression, and we expect to continue our insistence for fair play to the producer.

However, we have now reached the turning point in the war. There is a crisis at hand that calls for absolutely unselfish, sacrificial service on the part of all of us. We must lay self interest on the shelf till the business in hand is done and the war is won. There are but two classes of Americans who have made a hundred per cent sacrifice up to the present time—the men in the service and the mothers who gave them birth. What is the meaning of a dollar, do you suppose, to these men and these mothers in the balance with life?

Take this home to yourself Mr. Farmer. You are the man at home who must feed the fighting men and the starving non-combatants and you must do it at cost to yourself if the country asks that of you. You will not quibble over that point when you stop to think of the five hundred thousand who are already fighting your battles and the five hundred thousand more who are preparing to follow them into the trenches.

If injustice is being done you in regard to prices be assured that the day of reckoning for the profiteers is coming, but do not let your price problems hinder you in taking care of the nation's urgent food needs. Put your country first and keep your conscience clear.

Alvin T. Steinel

About Lending Implements

A reader sends us the following observations regarding the loaning of farm tools and implements: "The question of loaning farm tools has been revolving in my mind for some time. To refuse to loan—would it mean that I was stingy or mean? To loan and have ones tools come home—or to have to go after them sometimes—only to find them broken or out of repair, causing a trip to town and possibly a wait of three or four days for repairs to come, which I have done—well it makes one feel like swearing off loaning. Then again, we have to borrow or hire so we can't very well refuse to lend. What do you say about this?"

The editor hasn't farmed for some years, so he asked his wife for advice. This is what she said: "Well, what can you say or do about it? Mrs. Soandso comes in to borrow a cup of sugar, or she sends over for the waffle iron and I lend it to her, but just as sure as fate she forgets to bring things back and I have to go after them, because, maybe the next day I want to get a little vinegar from her, or some gasoline to clean my gloves. I keep on lending because I have to borrow once in a while. I always make it a practice to return things, but some of the neighbors are not prompt or careful about borrowing. They don't intend to inconvenience me but they do just the same."

After asking friend wife for enlightenment the editor was no further along than when the question was propounded by our farmer friend, so he decided to leave it to the Western Farm Life family for discussion. What has been your experience, and yours, and yours and yours? Is it a common thing for you to lend your tools and implements to neighbors and have them forget to bring them back, or have them returned in bad condition? If this is a common practice let us have a little meeting about it here in these columns and give these neglectful neighbors something to think about. No names need be mentioned but your experience may help solve this problem.

The editor doesn't want to see the old-time custom of helping each other get into disrepute; at the same time he believes in every farmer owning his outfit and taking care of it under the machinery shed. He knows, however, that where people are just making a start, as on a homestead for instance, it takes a lot of good will and help from neighbors to pull us over the rough spots. Naturally those who have been doing most of the helping, like the man who wrote the letter that we started off with, sometimes feel they are being imposed on. But the editor will not do any more of the talking; it is up to the rest of the family now, so sit down at the kitchen table tonight, where the fire from the range will keep you comfortable, and pen us a few lines on the subject of borrowing tools and implements. Sign your name, and if you do not wish your name used in the paper, say so, and your wishes will be respected. The editor, however, prefers to have permission to use your name and address.

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Grubb's English Wild Bull

One of the interesting exhibits in the Agricultural College division at the National Western Stock Show was the stuffed English wild bull. Mr. Eugene Grubb of Carbondale received the hide, hoofs and horns of the animal from Europe several years ago for mounting and exhibition at the Panama Pacific Exposition in San Francisco. This animal was one of the only herd of wild cattle now in existence. The herd is on the estate of the Earl of Tankerville in the north of England. Mr. Grubb, while touring Europe and investigating the potato industry as well as livestock in that country, was a guest of Lord and Lady Tankerville. He had occasion there to see these cattle in their native haunts. The herd dates back to the year 1210, having been on the estate since that time and never increasing much beyond 80 head. This herd is an example of the principle of the "survival of the fittest." There is always only one herd sire. Animals that are physically unfit are not allowed by the herd to reach maturity. Mr. Grubb states that one of the lessons learned from studying these cattle is that inbreeding does not destroy constitution and ruggedness.

The Branding Iron

Applied by Elias M. Ammons

The Kansas City Chamber of Commerce has engaged the services of Dean H. J. Waters, recent president of the Agricultural college at Manhattan, to head its agricultural bureau in a vigorous campaign for increase of crop production in Kansas City territory.

In securing the best man possible for this work, the Kansas City people will doubtless set a pace this year that will be hard to follow.

✦ ✦ ✦

During the past winter the curtailment of wheat prices had the practical effect of increasing the cost of other grains and considerable wheat was used for the fattening of live stock.

With a great scarcity in the staple grain for bread-making, such a readjustment should be effected as will result in all wheat being used for human food.

Some of the millers are putting in machinery to produce corn flour which, it is thought, will be much more popular as a substitute for wheat flour than corn meal has proved to be.

Some wheat dealers report the present outlook for 1918 wheat crop as being worse than for more than a score of years. If this be true, every farmer should do his utmost to increase the wheat output for the coming season. In irrigated districts this can easily be done by planting more spring wheat.

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A great scarcity of seed corn is reported thruout the Middle West and ten cents a pound and even higher figures are quoted for first class seed.

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If the farmer's wheat is to be Hoover verized, he will ask that steel and nails and farm machinery be kept at reasonable prices.

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The unparalelled drouth in the Southwest will greatly curtail the supply of steers for northern ranges. This emphasizes the necessity of re-establishing breeding herds thruout the Rocky Mountain districts.

The Colorado Agricultural college service flag carries 241 stars. Photograph from which this cut was made was taken on the occasion of the visit of Governor Gunter and members of the State Council of Defense to Fort Collins during the annual meeting of the Colorado Farmer's Congress in January.

Comment by Farmer Putnam

HOOVER'S SOLUTION OF THE PINTO BEAN PROBLEM IS APPROVED BY OUR MISSOURI FRIEND

Stove Prairie, Colo., Feb. 20, 1918.

HURRAH for Herb Hoover! Them's my sentiments. Herb ought to let me give him the rebel yell. I been sayin' considerable about our Food Administration, and sometimes I wasn't so durned enthusuastick neither, 'specially when it come to eatin' war bread. But now I'm excited about Hoover, because he's done showed that his heart is in the right place. I like fellers that's fur exact jestis when it comes to administerin' a law of any kind and wouldn't kick on 'em fur the world, hecause duty is duty, hut now and then we find a feller that's got that sense of jestis and got a heart in him too.

All this here hurrahin' is about pinto heans. Them bean growers has found out that Hoover is their friend after all. My, but we was gittin' sick about our big crop of beans. It got so that I couldn't look a farmer in the face, because when this war come on last spring I was one of the fust to holler about more beans, more beans. I kept tellin' the farmers that old song the boys sung durin' the Civil war of "hay foot, straw foot, belly full of beans," and how they marched by that tune. One day a feller ast me which side I was on in the Civil war. He said he'd heard me give the rebel yell and the Northern war songs and he had his douhts ahout me. I let the cat outen the hag then and told him that I was still too young to shoulder a muskit in them days, but that the folks had planted themselves down in Platte county, Mo., where a honest farmer in '61 had to learn hoth the rebel yell and the Northern war songs and rip out either one or t'other, dependin' on who was at the door demandin' to know how he stood. I've heard my dad say, in after years, that it used to puzzle him on a dark night to decide whether he was Yank or Reb, but he was a good guesser and never missed givin' the right sign.

But that ain't what I started out to say. I want to express myself about this bean husiness. My friend, Lamson, was down to Washington in January, after everyhody else had tried their hand to get the price of pintos to perk up a little. They started to tell him the same story that they told everybody else about Mr. Hoover bein' too busy to see him and that pinto beans would have to take their turn and wait till they was a demand fur 'em. But Lamson said the beans wouldn't wait and he had a important message fur Mr. Hoover. I reckon he probably told 'em that Farmer Putnam was behind this thing, so they finally opened the gate and let him in to see the Big Gun. As soon as Hoover heard him say "pinto beans," why he jumped right up and sez:

"Do I know what pinto beans is? Well, I should say so; didn't we git 34 carloads of 'em over to the Belgians when I was tryin' to keep them poor people from starvation? Didn't them Belgians pick right up when we give 'em plenty of beans, and didn't they call fur more of the same kind? Bet your life I know how good they are! Done eat a mess or two of 'em myself, and you just go back to Colorado and New Mexico and tell them farmers that I'll see that the markets of the east hears about the big crop. I'll do more; I'll see that the British army gits some samples to try out, hecause we cain't spare them any more white heans. I'll see that hereafter when any beans gits a ticket to cross the ocean they're colored beans; that'll open the export market to you. Then I'll git them state food administrators all over the east to recommend the use of pintos in the household, because they're cheaper than navies and make a better eatin' bean at that, with more nourishment. Then I'll top it all off hy buyin' all the heans. Just tell Farmer Putnam not to worry. Have him let his friends know that we want 'em all to raise more beans in 1918 then they did last year, because we're goin' to need all that's left in the farmer's hands this year and pay him 8 cents fur recleaned beans."

Lamson come out here and ast me what I thot of that and I sez fur him to tell Herb Hoover that it's all satisfactory with me. Some of us had to sell when the beans was down to 6 cents, but others has got 'em on hand and is glad to git 8 cents, which is a fair price and what we'd ought to had all season.

Now fellers, we has to do our part and let go what we have on hand, hecause I done got it right straight from Washington that this world is short of food and we've got the job of raisin' it, even if we has to lose money by it. Them there underground U-boats of the Germans has been sinkin' a lot of good grub; millions of men has been fightin' and no time to farm; them soldiers has to be fed and them civilians in the countries at war cain't be left to starve. And then they is our own Army and Navy to feed, so we got a big job on hand this spring and summer—higger then last year, be cause they is more mouths to feed an less bein' produced in them countrie across the water. Every month the supply is gittin' less and here we are grumblin' ahout growin' crops when we got our cellers full and plenty to eat every day. Kickers don't git no more sympathy from me. From now on everybody has got to buckle down to hard work. Winter is the time fur institutes and farmers' congresses, where we cuss and discuss problems and let off steam. We've done our share of that this winter and I ain't no exception to the rule. I feel a lot better fur it. I believe in free speech, because when we let the hot air out in our own meetin's it helps save fuel, and when we git hack to the ranch we air relieved of a lot of surplus grouch and kin think clearer and work hetter.

I'm a-lookin' down the trail that leads over to the Buckhorn. If I was to git out of the cabin now and hit the trail headin' fur the east, it would land me in a strange country all cut up by caves and ditches. And down in them ditches I'd hear some fellers talkin' United States and maybe hummin' the Star Spangled Banner. I'd fall in and they'd pick me up and one of 'em would say:

"Hello, fellers; here's a ranchman right from my old home state. Well, if it ain't Farmer Putnam!"

They'd all shake my hand and be durn glad to see me, and what do you think they'd ask? "How's crops?" And I'd say: Well, boys, things looks blue over in Colorado. Us farmers cain't do much fur ye. We hain't got no labor, we cain't git no good prices fur our wheat and beans; our hens don't lay; our cows is short of milk; our merchants is stickin' us fur every dollar they kin git. You fellers over here has got to win this war the best way you kin, because times is so hard over our way and things is so high that it don't pay to farm."

What would happen to me? Just what I'd deserve; git a hayonet stuck right thru my gizzard.

* * *

I git lots of letters; some is good and some is bad. Onct in a while some feller wants to know why they put this fool stuff in the paper. I don't answer them kind, because a feller that don't like a little foolishness cain't understand a explanation of it. Sometimes I gits letters that's all to the good, like fur instance one from my friend Mott, over acrost the range. I don't know this here Mott, but I kin tell by the letter that he means what he sez and I'm goin' to print some of it, because it was wrote in my own language. He sez he's from Kansas, just acrost the line from Missouri, but reckon he didn't live fur west of the Missouri line, judgin' from the way he has of puttin' things. He writes as follers:

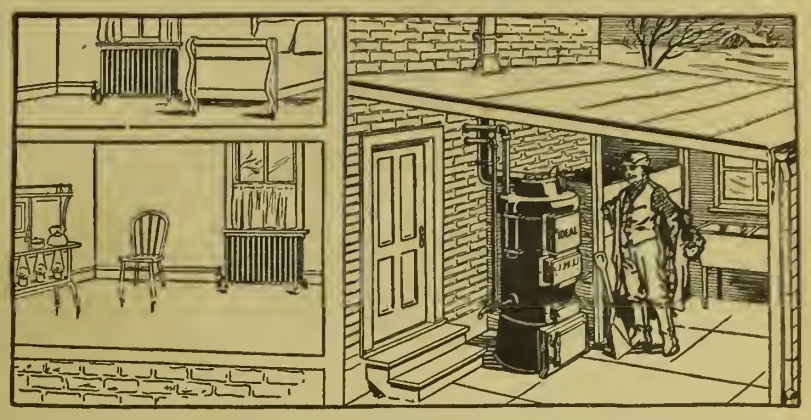
Blame yer pictur! Your last letter about goin' over and paintin' the Kaiser's pants red, white and blue got me all riled up. The old scoot! No sir, not our nice clean colors. Set him in that tin pot he wears on his head and have it full of red paint fur the innercent blood he's shed; paint his legs yaller, and yaller means just plain yaller dog. And you bet our Twentieth Kansas will do it too. They waded thru a river and right up a hill and got them other butchers that was killin' and starvin' innercent women and children back in '98, anu you just bet they'll can the Kaiser. And that reminds me just how some folks are helpin' win this war right here at home, with their comfortable houses to live in, and buyin' up a dollar's wuth of sugar every time they goes to town and changin' stores so's not to git caught at it; and gittin' a sack of flour here and there enough for a year's supply!

You're from Missouri Put; well I'm your brother Mott, just acrosst the line in the state that grows sunflowers because they thinks they fit in the color scheme. In border warfare times when the cry come, "The Missourians is comin'" everybody got their guns and hid their family and coin and vittels and run the stock in the brush. Well I expect you could tell your part on the Jayhawkers too. But them times is past now and they ain't no hard feelin's. Anyway Put, us old timers kin show 'em how to subsist on hog and hominy to save flour and sugar fur the starvin' people in Europe and fur our own boys and we kin cut out hog and substitute jackrabbit and cottontail.

Mott didn't give no address, so I'm just sendin' him word by these here

Turn to Page 17

Have IDEAL heating in any farm home



Where there is no basement, put the IDEAL Boiler in well boarded-up summer kitchen or leanto—water pressure not necessary for radiator heating

Every farm house *can* have and *ought* to have Ideal heating, which consists of an IDEAL Boiler, and Radiators located in the different rooms. The IDEAL Boiler burns the *cheaper fuels* of any locality—even down to screenings and lignites and develops the *greatest heat* from the fuel for heating purposes.

AMERICAN RADIATORS & IDEAL BOILERS

IDEAL Boilers are known the world over as the greatest heat distributors. More IDEAL Boilers in farm houses and city buildings than all other makes together.

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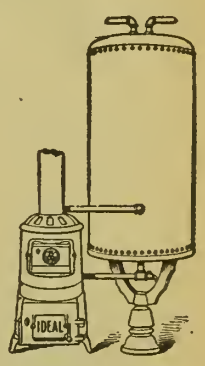
Radiator heating is the IDEAL heating for the farm—it is cleanly—labor-saving—gives heat for any kind of weather. A small fire will furnish plenty for chilly days and the house is as balmy as June even in blizzard weather.

IDEAL heating is a wise investment

Improve your house with IDEAL heating—give your family its comforts—pays back its first cost in fuel savings. IDEAL heating is safe, clean and durable—never needing repairs or over-hauling and lasts as long as the building stands.



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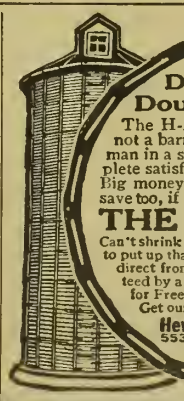

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Can't shrink and fall in when empty. Easier to put up than any other style of silo. Sold direct from the mill to you. Guaranteed by a million dollar coocern. Send for Free Book "All About Silos." Get our prices before you buy.

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Odorless and Sanitary

Why go thru another winter exposing your family to the dangers and discomforts of an outdoor closet? An EZ-MT INDOOR TOILET costs about the same as the outdoor privy. Saves its price in doctors' bills the first year.

30 Days Trial-Money Back Guarantee

No sewer or cesspool. Germs and odor killed by our special chemicals. Requires about 10 minutes attention a month. Handsome appearance. A western product; no high freight to pay. Write for literature, prices, etc. Agts wanted

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Millet as a Forage Crop

Owing to the fact that they will develop with relatively small moisture supplies and that they will mature in a short season, millets must be considered among the important dry-land fora e crops. Millets, as are the sorghums, are "hot weather" crops and will not do well at higher and cooler altitudes. For the most part, their place among the dry-land forage crops is to furnish hay for horses, cattle and other similar livestock.

Varieties.—The varieties commonly met with on the plains are the German, common, Hungarian, Siberian and hog millet. Hog millet is grown more frequently for the grain than for the forage. In some sections it will produce quite heavy yields of seed. It is not widely adapted to Colorado plains conditions. Where it is adapted it is worthy of a place in the rotation. Elsewhere, it should not be grown at all. Most of the sections where it does well lie in the northeastern part of the state.

In general, German millet is recommended in preference to others. It grows more rank than the common, and consequently, where moisture supplies are fairly good, should be seeded a little thicker. If this precaution is taken, it will make as fine hay and usually a little more tonnage than common. The other varieties are adapted, but do not possess any superiority. As a consequence, planting for hay purposes should be limited to the German and common.

Preparation of the Soil.—The soil for millets must be prepared as thoroly, or more thoroly, than for sorghums and corn, as it is small seeded and must have a comparatively congenial seed bed if it is to produce a good crop. In order to accomplish the production of such a seed bed, plowing should be very early, in order to allow the accumulation and protection of the moisture supply.

Seeding.—Millet should not be seeded until approximately the first of June for most of the plains territory. It will not develop in a cold soil, and since it matures in a short season, planting can be delayed until the soil is thoroly warm, which is about the first of June. Preferably the seed should be put in with a press drill, using about 25 to 30 pounds of seed per acre. It can, however, be seeded by broadcasting and harrowing the seed in, or better still, rolling it in and following the roller with a harrow.

Harvesting.—Millet makes a valuable hay if it is cut at the right time. The right time is about the time the seed is in the milk. If allowed to mature farther than this the seed is liable to injure livestock to which it is fed. This is especially true of horses. When cut at the proper time, just as the seed is reaching the milk, it makes a palatable, nutritious hay. The hay can be cut and allowed to partly cure in the swath, raked and cocked for complete curing. As soon as thoroly cured, it should be stacked to prevent loss.—Alvin Kezer in "Dry Farming in Colorado."

Inoculating for Alfalfa

Answer to H. P. H., Hinckley, Utah: In order that alfalfa may make a good stand, and continue to live and produce large crops, the soil must contain or be supplied with the nitrogen-gathering bacteria which live on the roots of the alfalfa plant and supply a part of the plant's food. On healthy, vigorous plants, these micro-organisms, which are so small that they must be magnified several hundred times to be seen with the eye, live and multiply by the million, forming numerous little knots or nodules which are easily observed.

It is usually necessary to supply the alfalfa bacteria to land which has never grown alfalfa. This may be done by inoculating the soil or alfalfa seed before sowing, with infected soil from an old alfalfa field or sweet clover patch. Sweet clover is closely related to alfalfa botanically; the same variety of nitrogen-gathering bacteria works successfully on either plant, and sweet clover soil is usually preferred because it is often handier and cheaper to get. Prefer to use the soil from an old patch of sweet clover, where the plants have been growing undisturbed for several years.

The new field for alfalfa may be inoculated directly by hauling and spreading the infected soil just previous to discing or harowing in preparing the seedbed. A load or even a few hundred pounds per acre of well infected soil, if carefully spread, is sufficient to cause most of the young alfalfa plants to become inoculated within a year after planting. Care must be taken not to have the infected soil exposed too long after spreading, since bright sunshine tends to weaken and kill the bacteria.

While the soil spreading method is quite sure, it is rather laborious and expensive. A better and more economical plan is to inoculate the alfalfa seed just previous to seeding by what is called the "blue method", briefly described as follows:

Use the infected soil to the depth of about six inches. Prefer a silt or loam soil. Sandy soil is too coarse to stick well, while clayey soil used in excess may gum up the feed cups, interfering with seeding. Prepare the infected soil by drying a few days, if necessary, in a darkened room or under a canvas, not exposed to direct light. Pulverize the soil by pounding it in a sack or rubbing it with a brick until it is fine and dusty, then sift it, taking out all particles which are coarser than the alfalfa seed. Keep the pulverized soil in the dark or in a sack until you are ready to use it.

Dissolve 8 ounces of common furniture glue in one gallon of warm water. Ground glue is preferred because it dissolves readily. Have the solution warm when used. Now empty the alfalfa seed in a pile on a canvas or tight floor. Two or three bushels is enough to treat at one time. Then with a whisk broom or small sprinkler, sprinkle the glue solution over the seed, shoveling it over and stirring it vigorously until all the seed is moist but not too wet, with the glue solution. At once, without stopping the stirring, sift the pulverized soil over the seed and continue sifting and stirring rapidly until the moisture is largely taken up by the dirt and the glue is set, thus causing many particles of soil, some of which will contain bacteria, to adhere to each seed. It requires 1 to 1½ quarts of solution and 4 to 6 quarts of pulverized soil to treat one bushel of seed. A little excess of soil may do no harm.

If the work has been carefully done the seed may be sown at once. As a rule it is better to spread the seed in a darkened room for a few hours in order that it may become quite dry before seeding. It is a good plan to treat in the evening the seed which will be sown the next day. The only precaution after treating is to keep the seed out of the sunlight and see that it is covered with soil when sown or very soon after seeding.

Bacteria Culture preparations, now manufactured and sold, for treating the seed before sowing may give good results when used carefully according to directions. Some farmers may prefer to use these prepared cultures rather than to bother with the "glue method."—A. M. Teneyck, Agriculturist, Emerson Brantingham Implement company.

Starting the Dry Farm

Continued From Page 6

hold out everywhere. Try it out.—E. R. Parsons.

Sowing Spring Wheat.

I want to sow some spring wheat but don't know just what variety is best, the amount of seed nor time. I thought of sowing 20 lbs. an acre about March 1st; there are lots of Russian thistles on the ground. Would it pay to harrow mush in a dry year? Where can I get reliable corn for seed? When should it be planted and about how far apart. Would you recommend plowing this spring, then listing. I have farmed quite a while but dry land farming keeps me guessing.—B. S., Kit Carson County.

The best spring wheats for dry farm planting are the hard Russian varieties such as Durum, Kubanka, etc., and about 25 lbs. to the acre is the correct amount to plant, but unless the land was plowed in the fall it would be safer to plant late crops such as corn, beans, Sudan grass or sorghum. Small grain should be planted in March and corn from May 15th to June 1st. The land for corn should be plowed as early as possible and disked and harrowed alternately until planting time to kill the weeds and accumulate moisture.

The seed may be listed in across the plowing or a corn planter may be used. Listed corn is not safe on slopes where there is danger of washing. Reliable seed can usually be obtained from the farmers who raise it or from Denver and other seed houses; but corn should be tested for germination before purchasing. It pays to harrow grain crops before they are jointed, especially winter wheat when the soil needs loosening up on the surface.—E. R. Parsons.

"Don't conclude that a man is a patient mortal because you've watched him sitting on a log fishing," said the milk toast philosopher. "Watch him while he's waiting for his supper."

SCARIFIED SWEET
CLOVER

The scarified seed insures quick and sure germination. Best for late spring planting. Specially adapted to dry farms and non-irrigated land.

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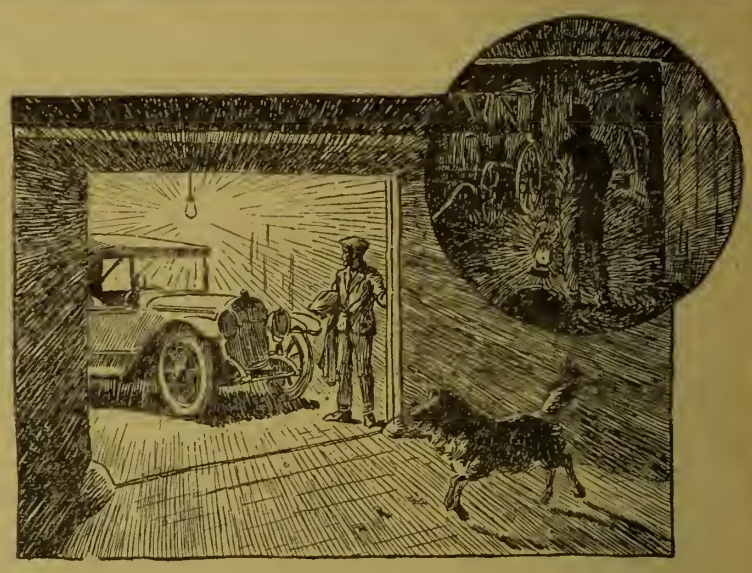

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Lalley-Light, in effect, is two electric light plants for the price of one. For it provides two sources of light and power, both reliable and efficient.

One of these is the storage battery. The other is the electric generator. Current used direct from the generator—giving bright, steady light, without a flicker—does not pass thru the battery. That is an economy, for the life of the battery is prolonged.

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The engine, direct-connected to the generator, starts when a button is pressed. If run to replenish the battery, it automatically stops when the battery is fully charged. If the battery needs charging, a bell rings to warn you.

These are distinct Lalley-Light advantages, over and above the great comfort and convenience—the perfect safety and the proved economy—of electric light and power.

On thousands of farms Lalley-Light keeps the young folks contented; it is a boon of comfort to the old folks.

Its light is always ready—waiting, in a flood, for the turn of a switch—in house, barn and outbuildings.

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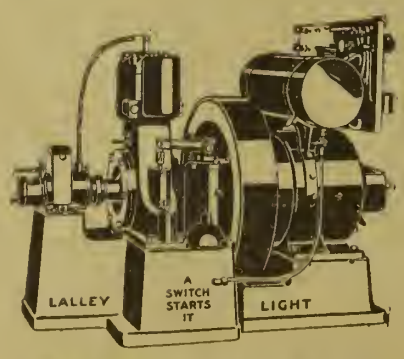

Generating Plant is 27 inches long, 14 inches wide, 21 inches high. Storage battery is included in complete outfit.

Broom Corn Production

Broom corn should not be planted until the ground becomes well warmed. Like its sister plants, sorghum, kafir and milo, it is a warm weather plant and grows very slowly at first, particularly if the soil and air are cool. Nothing is gained by early planting. The late planting is ready to harvest just as early and the growth of the ealy planted broom corn is so slow that the weeds trouble it a great deal. early planted broom corn is so slow that quiries one or two more cultivations than late planted and does not yield any more.

The ground should be handled to get it well warmed and to hold its moisture. The cheapest way to do these two things well on each particular farm is the method to use on that farm. If the ground is to be plowed, it should be plowed early, each day's plowing harrowed the day it is plowed, and, after the plowing and first harrowing is completed, the soil should be worked frequently enough to make it fine and mellow and to keep a good earth mulch on the surface.

There are two distinct types of broom corn—the Standard and Dwarf. The Standard grows from 10 to 12 feet high and is best adapted to sections where the rainfall is ample to make corn raising a staple industry. The Dwarf grows 4 to 6 feet high and is generally grown in those sections where the rainfall makes the growing of kafir and milo more profitable than raising corn.

There are many so-called varieties on the market, but no special ones are recommended either by buyers or manufacturers of broom corn. The grower should buy either Standard or Dwarf, as best suited to his locality and soil, and then get seed from a strain that meets the highest demands for quality of brush. The reliability of the grower of the seed is of much greater importance than the name he attaches to his strain.

Broom corn will grow on almost any soil, but does best on a warm loam. "Tight" or adobe soils are the poorest, and very rich soils have a tendency to produce a coarse brush. It is a fair sod crop.

Broom corn is one of our best drouth-resisting crops, and if it has good growing weather for 60 to 90 days after planting, will make a profitable yield in a season of extreme drouth. In many localities a good crop has been secured in seasons so dry that all other crops except milo and sorghum failed. It needs dry, warm weather at harvesting.

If the broom corn is to be listed, it is a good plan to list the ground deep early in the spring. If the lister throws enough loose dirt to maintain a good soil until planting time, let the field alone. If the furrows are left hard and bare, work the ground with a disk harrow or lister cultivator just enough to make an earth mulch that will hold the moisture on the sides and bottom of the furrows. At planting time relist the ground ,splitting the furrows. Run the furrows shallow at planting time.

Drill the seed, dropping 50 to 70 seeds to the rod (this for seed that will germinate 95 per cent or better). Plant as shallow as possible and have enough moisture to bring up the seed quickly.

Cultivate often and shallow. It is a good plan to give the first cultivation before the plants come up. A two-horse cultivator with eight small shovels is better than one with four large shovels. Cultivate about once in ten days, or often enough to keep out weeds and grass and to keep a good earth mulch on the surface. The first one or two cultivations may be made deep to advantage, but later ones should be shallow. Keep cultivating until the heads start.

In order to secure the tough, elastic straw that brings the highest price, the growth must be steady and rapid. Any checks in the growth caused by lack of moisture, too long intervals between cultivatings or by frost tends to produce brittle brush and each check materially lowers the value.

Enlist the Incubator in War Work

Continued From Page 3

give the machine to B., who is highly successful under the same directions. This could not be attributed to A.'s stupidity or to a poor machine, the change in results being due to a change in the atmospheric conditions.

Every breeder of poultry should have a machine, even if used only as a finisher. If a number of hens are started at the same time, at the end of two weeks the eggs can be transferred to a machine, where they will finish successfully and be free from danger of vermin. Biddy can be given a fresh supply, and it will not injure her to remain close to the nest for four weeks.

If one does not care to invest in a new machine, bring the discarded machine out of the cellar or storeroom, change the system of ventilation as compared to the last time operated and give it one more trial.

City fanciers will bend their energies toward producing a dozen or two more, and our farmer friends should be equal to several times that number. The demand will be good for several years to come and a little extra effort may help in extricating us from a bad position.

Looking for Seed Corn.

Following from the Haswell Herald shows the right sort of activity on the part of a Grange purchasing agent:

Will the farmers who have seed corn for sale please notify me how much they have and of what kinds? Also if the farmers who wish seed corn will let me know what kinds and how much they want I will try and locate it for them. This is not a money making proposition on my part, but an effort to bring seller and buyer together and to increase corn production in this part of our state.—Gad Barney, Business Agent, Tri County Grange.

If seeds are worth sowing

—your lawn, garden, hothouse or flower beds are worth caring for. Planting and then just letting things grow never gets the same results as careful cultivation.

Nor can you get from inferior tools the results that come from the use of KEEN KUTTER Farm and Garden Tools because there's a tool responsiveness in the steel, design, balance, swing and handle finish of KEEN KUTTER that keeps you enthusiastic in their use.

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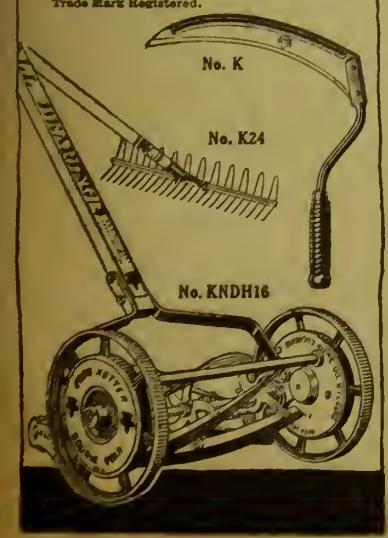

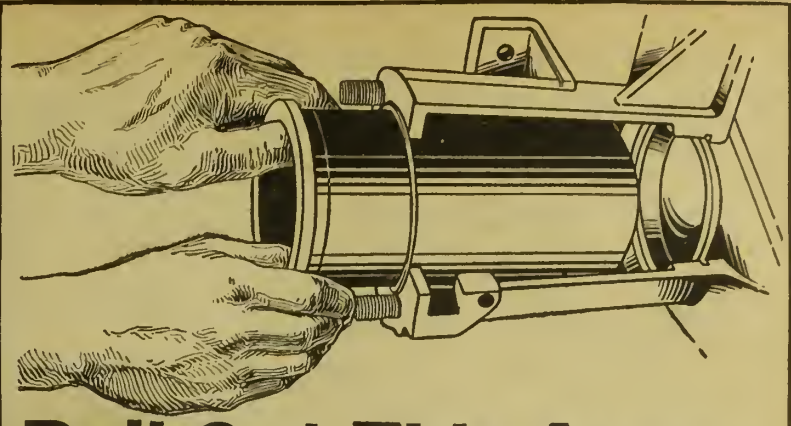

Pull Out This Avery Inner Cylinder Wall

THE inner cylinder walls of a motor are subject to more wear than about any other part of a tractor. In Avery Tractors these inner walls are separate castings. When worn or scored from any cause you can replace them at a small cost, with little trouble and practically no delay.

Other tractor motors must be taken out of the frame and sent to a machine shop to be rebored, reground and fitted with oversize pistons, which means heavy expense, much work and long delays, or a complete new cylinder must be purchased.

When you have an Avery Tractor you can also adjust the crankshaft boxes which cannot be done with any other tractor. No need of tearing the motor down and rebabbitting the boxes when they wear a little, as they are bound to do on every tractor.

You can burn kerosene too, and more successfully than in any other tractor. The Avery Duplex Gasifier does the trick. No other tractor is equipped with it. Avery's are the tractors that burn ALL the kerosene.

Write for Free Avery Motor Farming Book

Get all the facts about the Avery Line of Tractors. They have many other superior features. They are built in sizes to fit every size farm—six sizes from 5-10 to 40-80 H. P. Also learn about the Avery Two-Row Motor Cultivator—the newest successful Motor Farming Machine built. There's also an Avery Plow and an Avery Thresher to fit every size Tractor. Ask for new 1918 Complete Avery Motor Farming Book. Address

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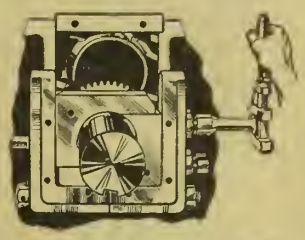
Branch Houses and Distributers Covering Every State in the Union and More Than 60 Foreign Countries

There's a size Avery Tractor for every size farm and every kind of work



Adjust This Avery Crankshaft Box

Take up any wear in a few minutes. Can only be done on Avery Tractors.

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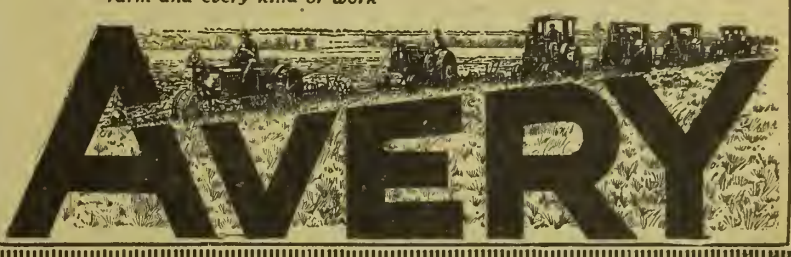
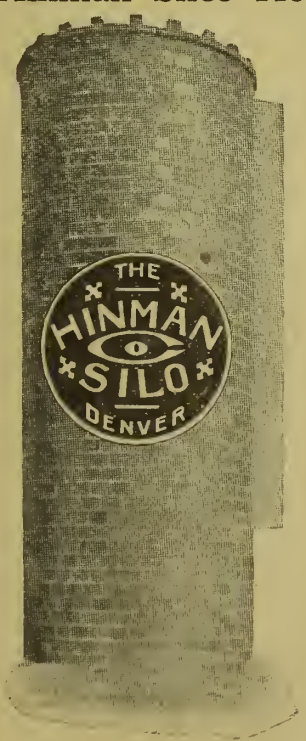


Hinman Silos Help Make Grand Champions



The following championships and first prizes at The Western National were won by cattle fed on silage from Hinman Silos:

JERSEYS—Grand champion bull and cow. Reserve champion bull and cow and all champion and first prize animals and herds.

HOLSTEIN—Grand champion bull. Junior champion cow and reserve champion cow. All first prize herds. Get of sire. Produce of dam and eight other first prizes.

MILKING SHORTHORNS—Grand champion bull and cow. Reserve champion bull and cow and eight first prizes.

GUERNSEYS—All grand champion. Champion and first prizes.

SHORTHORNS—Western. Grand champion cow. Breeders young herd. Reserve champion car lot of fat steers and three first prizes.

HEREFORDS—Grand champion bull. Champion carload of breeding heifers and two first prizes.

One hundred twenty-one other dairy cattle and 55 other beef cattle prize winners were elevated to their honors with the assistance of silage from Hinman Silos. What they have done for others they will do for you.

If you want to know more about the Hinman Silo write for descriptive booklet.

THE HINMAN SILO COMPANY
Union Stockyards, Denver, Colorado

Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Brown Spots in Potatoes.

Last year I got a splendid crop of Early Ohio potatoes on our dry farm. The tubers were large and bright and of good form. These potatoes have been raised with great care for four years on this new land and closely guarded against disease, the seed last spring being apparently free from any traces of disease. Now we find many containing brown spots all thru the flesh. What is this and why; if a disease, what is its name and how can we avoid it? —W. S., Idaho.

From your description I believe your trouble is what is known as "Internal Brown Spot". So far as known, this is not a disease in the strict sense of the word, but is a physical breaking down of the tissues. The trouble has been examined by many expert physiologists and no fungi or bacteria have been found. I have seen the trouble for the past several years. It appears to be the result of hot or dry weather or other adverse soil conditions. There is no indication that the trouble is transmissible; that is, you are no more likely to have it next year than if you had not had it this year. Then on the other hand, potatoes affected this way are more likely to rot in the ground so as to give a poor stand, so it is not advisable to plant stock thus affected.

The fusarium disease is shown distinctly in a different way. If a section of the stem end of the potato be cut, that is diseased by the wilt, you will find a discolored ring of dots in the sapwood of the potato. The fungus extends over the stem from the plant and follows the sapwood or vascular tubes, hence the trouble is finally carried to the seed stock. If I am correct in my interpretations of your disease, the potatoes you have simply have brown discolored spots in the tissue of the potato.—E. R. Bennett, Field Horticulturist, Idaho University.

Legal and Homestead.

Answer to M. C. H., Crowley County:

1. Who can become heirs to a married man's property at his death? Wife one-half; children one-half.

2. If he has a wife and no children? Wife all.

3. Having filed on a homestead June 10, 1916, what is the earliest date a person can prove up? Write the Pueblo Land Office describing your entry by numbers.

4. Can a married woman hold down a homestead and her husband work away from home to help support the family? The man must show an actual residence on the homestead. If he can work and reside on the homestead I see no objection to the arrangement. Congress recently passed a law to apply only during the war, allowing homesteaders leave of absence from their claims to work on other farms—Copy of law will be published by Western Farm Life.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver.

Mortgage on Homestead.

1st. A sold his homestead, 160 acres in Wyoming to B, and gave warranty deed. B pays A cash payment and notes secured by mortgage deed on the land. Notes and mortgage signed by himself and wife. Mortgage signed by one witness. Is that sufficient for a good mortgage or does the law require two witnesses to make the mortgage valid?

2nd. May a real estate mortgage be assessed for taxation in Wyoming; if not, can it be assessed in any other state the mortgagee may be a resident of?

3rd. In selling a homestead in Wyoming what share does the wife get and should the money be paid to her as it is paid in?—J. W. S., Kansas.

Answer 1. The mortgage is good. 2. Mortgages are taxable in Wyoming under the statutes. 3. If you mean the statutory homestead under the exemption statutes, the money for the sale of such homestead belongs to whichever, husband or wife, owns the title, but both have to join in the deed. The value exempt from sale on execution for homesteads is $1,500.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver.

Lambs are Dying.

Can you tell me what is the matter with my Ewe lambs? I have lost two in the last week. They don't appear to be sick whatever. I found them both dead in the morning, lying as if they had just laid down to rest. Both were warm yet. I let the last one lay about five hours before I skinned her. She was swelled between front and hind legs and had a bad oder. Blood came from both of their noses. The flesh looked porous like between legs.—E A. H., Kline, Colo.

It is impossible to diagnose the disease in question from the brief description of symptoms given. The fact that the one was swollen between front and hind legs and that blood came from both of their noses, would rather indicate hemorrhagic septicemia. This is an infectious disease and might be quite serious. We find that this disease is quite extensive among sheep in the feed lots. Vaccination has been tried with success in some cases, but failed in others. In case you lose any more, make a post mortem immediately after death, and report findings.—Dr. Geo. H. Glover, Veterinary Department, Colorado Agricultural College.

Warts on Cow's Teat

I have a cow with warts on her teats. I used castor oil on them and it took them off but about a dozen came back where there was only one before. As she is giving milk, what can I do to take them off without making her teats sore?—D. K. D., Boulder County, Colo.

In some cases it is better to remove warts surgically, by excision or by ligation. For small warts that come on the teats of cows, the constant softening with oil, preferably castor oil, will cause them to disappear. Continue the castor oil twice a day for three weeks, and if conditions have not improved, advise with the veterinary department of the college with a view to more active measures. Fowler's solution of arsenic applied locally is effective. This preparation is very poisonous and must be handled with care.—G. H. Glover, Colorado Agricultural College.

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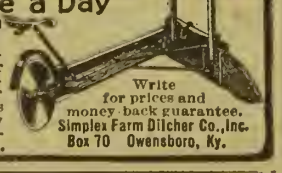

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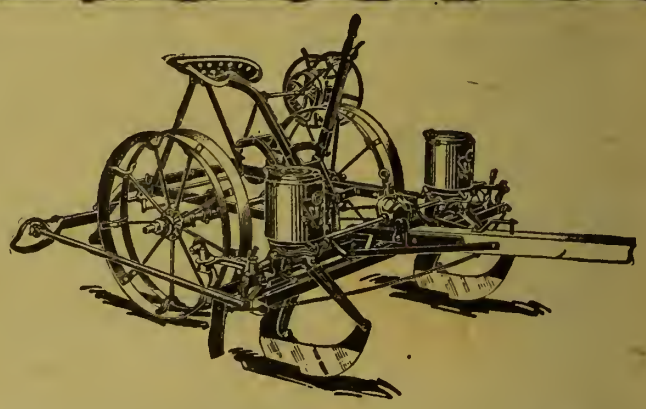

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WHAT greater satisfaction is there than to look over a field of sprouting corn and see 2, 3 or 4 sturdy plants in every hill, just as you planted them? That is the kind of a start your corn crop gets when you use an International or C. B. & Q. Corn Planter.

These machines plant corn accurately, whether used with edge drop, flat drop, or full hill drop plates; whether the corn is checked or drilled. The drop clutch can be changed, while the planter is working, to drop 2, 3, or 4 kernels to a hill. The tongue is easily adjustable to the height of the horses. A handy foot drop lever makes head-row planting easy.

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Stock Show Horse Awards

Following is a complete list of awards made in the horse and mule department of the National Western Stock Show, which could not be published in previous issue because of lack of space:

Horses and Mules

Champion Percheron stallion—Prince 116389, Woods Bros. Co., Lincoln, Neb., champion; Larcin 125302, Woods Bros. Co., Lincoln, Neb., reserve champion.

Champion Belgian stallion—Irvinedale Rowdy 8428, Glendale Stock Farm, Aspen, Colo., champion; Prince de Wyt 10247, Joseph Rousselle & Sons, Seward, Neb., reserve champion.

Champion stallion—Clydesdale and Shire—Cappel's Roan Boy 15411, McCray & Fowler, Fithian, Ill., champion; Hawkeye Boy 14343, Daniel Kelly & Son, Lincoln, Neb., reserve champion.

Class No. 1—Stallion, Percheron, 4 years old or over—T. B. Bowman & Sons, Boone, Neb., 1; Jarosa Ranch, Longmont, Colo., 2; J. L. Smith, Longmont, Colo., 3.

Class No. 2—Stallion, Percheron, 2 years old and under 4—Woods Bros. Co., 1; T. B. Bowman & Sons, 2 and 3.

Class No. 3—Stallion, 2 years old and under 3—Woods Bros. Co., 1 and 2;Joseph Rousselle & Sons, Seward, Neb., 3.

Class No. 3a—Stallion, 2 years old and under 3—Joseph Rousselle & Sons, Seward, Neb., 1; The Jarosa Ranch, 2; R. A. Chace, Fort Morgan, Colo., 3.

Class No. 4a—Stallion, 1 year old and under 2—The Jarosa Ranch, 1 and 2.

Class No. 4—Stallion, 1 year old and under 2—Finch Bros., Joliet, Ill., 1; Woods Bros., 2; Adolph J. Zang Inv. Co., Denver, Colo., 3.

Class No. 9—Four animals, either sex, get of one sire—T. B. Bowman & Sons, 1; Adolph J. Zang Inv. Co., 2 and 3.

Class No. 2a—French draft stallion, 3 years old and under 4—Harry J. Burns, Louisville, Colo., 1.

Class No. 5—The Adolph J. Zang Inv. Co., 1 and 2; T. B. Bowman & Sons, 3.

Class No. 5a—Mare, 3 years old or over—Jarosa Ranch, 1 and 2.

Class No. 6—T. B. Bowman & Sons, 1; Adolph J. Zang Inv. Co., 2; Harry J. Burns, 3.

Class No. 7—Yearling filly, Percheron—Adolph J. Zang Inv. Co., 2; State Ind. School, Golden, 3.

Class No. 8—Colt, either sex, under 1 year old—T. B. Bowman & Son, 1; Adolph J. Zang Inv. Co., 2 and 3.

Class No. 10—Two animals, either sex, produce of one dam—Adolph J. Zang Inv. Co., 1; T. B. Bowman & Sons, 2; Finch Bros., Joliet, Ill., 3.

Class No. 11—Belgian stallion, 4 years old or over—Glendale Stock Farm, Aspen, Colo., 1; Woods Bros. Co., 2; A. J. Campion, Denver, 3.

Class No. 12—Belgian stallion, 3 years old and under 4—Joseph Rousselle & Sons, Seward, Neb., 1; Daniel Kelly & Son, Lincoln, Neb., 2; Joseph Rousselle & Sons, 3.

Class No. 13—Belgian stallion, 2 years old and under 3—Woods Bros. Co., 1; Glendale Stock Farm, 2; Woods Bros. Co., 3.

Class No. 14—Belgian stallion, 1 year old and under 2—Joseph Rousselle & Sons, 1; Jarosa Ranch, 2; Daniel Kelly & Son, 3.

Class No. 15—Mare, 3 years old or over—Glendale Stock Farm, 1; The Jarosa Ranch, 2.

Class No. 17—Filly, 1 year and under—Glendale Stock Farm, 1.

Class No. 25—Mare, 3 years old or over—McCray & Fowler, Fithian, Ill., 1; Amos Ackroyd & Son, Eaton, Colo., 2 and 3.

Class No. 26—Filly, 2 years old and under—McCray & Fowler, 1, 2 and 3.

Class No. 21—Clydesdale and Shire stallion, 4 years old or over—Daniel Kelly & Son, 1; Woods Bros., 2; Joseph Rousselle & Sons, 3.

Class No. 22—Stallion, 3 years old and under 4—McCray & Fowler, 1; Woods Bros. Co., 2.

Class No. 27—Filly, 1 year old and under—Buchanan & Schrack, Ogalalla, Neb., 1; McCray & Fowler, 2; Buchanan & Schrack, 3.

Class No. 31—Standard-bred stallion, 3 years old or over—C. W. Krouse, Manzanola, Colo., 1; John E. Burns, Louisville, Colo., 2.

Class No. 34—Draft mare or gelding, 3 years old or over—F. W. Muhme, Longmont, Colo., 1; Jarosa Ranch, 2; Glendale Stock Farm, 3.

Class No. 23—Stallion, Clydesdale and Shire, 2 years old and under 3—Finch Bros., 1; McCray & Fowler, 2; Daniel Kelly & Son, 3.

Class No. 24—Stallion, 1 year old and under 2—Woods Bros., 1 and 2; McCray & Fowler, 3.

Class No. 29—Four animals, either sex, get of one sire—McCray & Fowler, 1; Buchanan & Schrack, 2.

Class No. 30—Two animals, either sex, produce of one dam—McCray & Fowler, 1; Finch Bros., 2.

Class No. 56—Grade horses, draft mare, 3 years old or over—F. W. Muhme, Longmont, Colo., 1; Glendale Stock Farm, 2 and 3.

Class No. 57—Pair draft mares, 3 years old or over, shown in harness to wagon—F. W. Muhme, 1; Glendale Stock Farm, 2.

Class No. 58—Draft geldings, 3 years old or over—Jarosa Ranch, 1.

Class No. 60—Best two-horse team, mares or geldings, any breed, weighing over 1,800 lbs.—F. W. Muhme, 1; Glendale Stock Farm, 2; Jarosa Ranch, 3.

Class No. 37—Pair draft mares or geldings, or mare and gelding, in harness—F. W. Muhme, 1; Glendale Stock Farm, 2; Jarosa Ranch, 3.

Class No. 48—Standard-bred stallion, 3 years old or over—C. W. Krause, Manzanola, Colo., 1.

Class No. 45—Percheron stallion, 3 years old or over—Harry J. Burns, Louisville, Colo., 1.

Class No. 50—Two animals, any age, either sex, get of one sire—Adolph J. Zang Inv. Co., 1; Harry J. Burns, 2; Adolph J. Zang Inv. Co., 3.

Class No. 51—Stallion colt under 1 year old, any draft breed—Adolph J. Zanz Inv. Co., 1 and 2.

Class No. 52—Filly colt under 1 year old, any draft breed—Adolph J. Zang Inv. Co., 1 and 2; State Industrial School, Golden, Colo., 3.

Class No. 53—Draft stallion colt under 1 year old, from registered sire—Adolph J. Zang Inv. Co., 1 and 2.

Champion colt under 1 year old—Marie Antoinette, Adolph J. Zang Inv. Co., champion; Richelieu, Adolph J. Zang Inv. Co., reserve champion.

Class No. 54—Draft filly colt under 1 year old, from registered sire—Adolph J. Zang Inv. Co., 1 and 2.

Class No. 33—American saddle stallion, 3 years old or over—J. A. Osner, Denver, Colo., 1; J. O. D. Ranch Co., Aroya, Colo., 2.

Class No. 61—Mule, 3 years old or over—John E. Burns, 1; extra, John E. Burns, 2; Chas. Gallagher, Littleton, Colo., 3.

Class No. 62—Mule, 2 years old and under 3—Chas. Gallagher, 1.

Class No. 63—Pair of mules in harness—John E. Burns, 1; extra, John E. Burns, 2; Chas. Gallagher, 3.

Class No. 64—Jack, 3 years old and under 4—John E. Burns, 1.

Class No. 41—Mule, 2 years old and under—Chas. Gallagher, 1.

Class No. 43—Pair of mules, weighing over 2,400 lbs.—John E. Burns, 1; Chas. Gallagher, 2.

Class No. 44—Pair of mules, weighing under 2,400 lbs.—John E. Burns, 1; Axton & Spratlen, 2; Chas. Gallagher, 3.

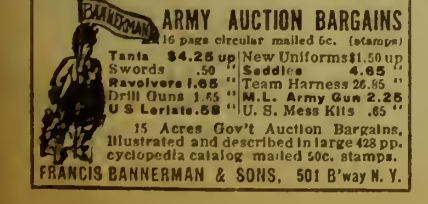
Class No. 38—Jack, 3 years old or over—John E. Burns, 1.

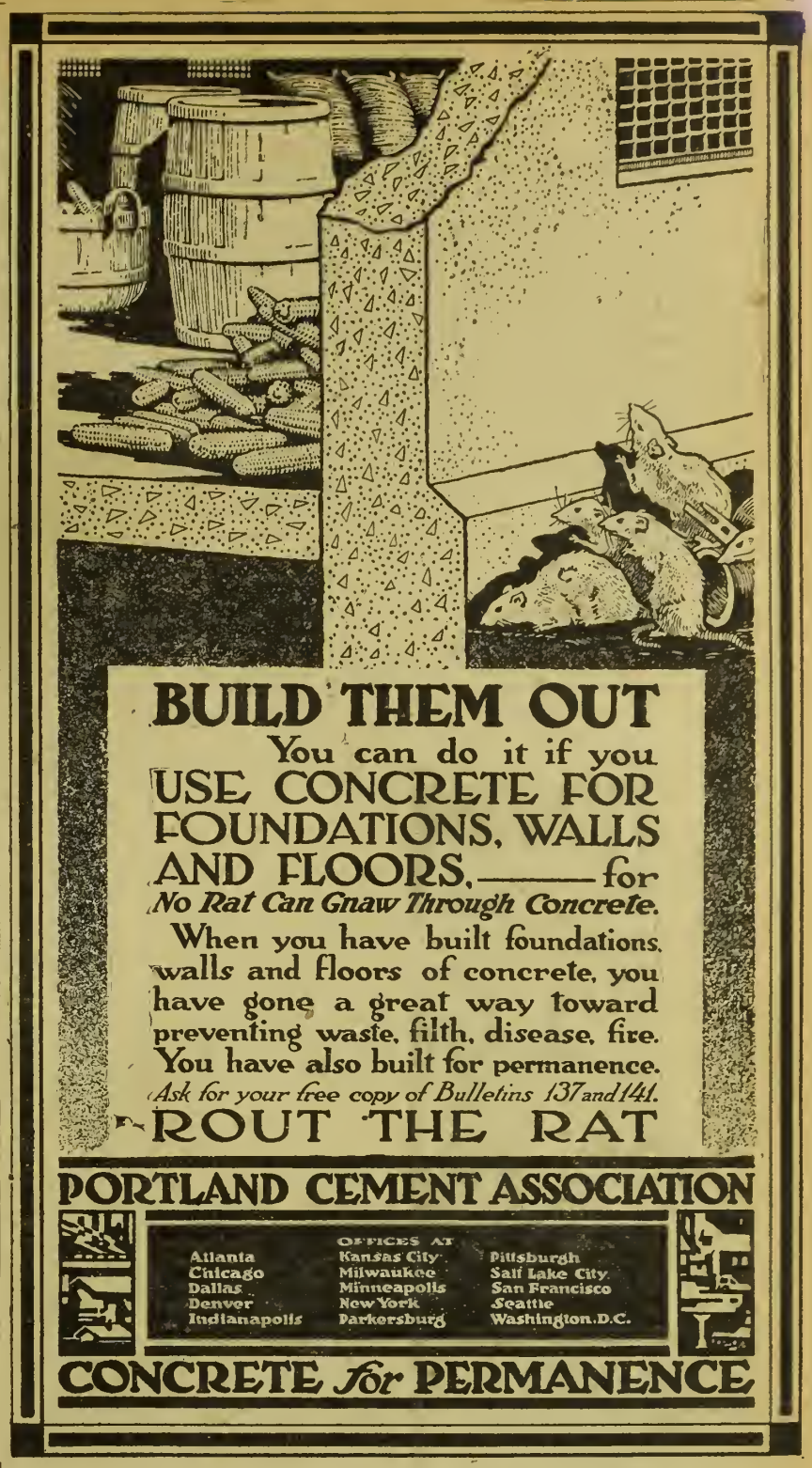
Class No. 39—Jennet, 3 years old or over—John E. Burns, 1.

Class No. 40—Mule, 3 years old or over—John E. Burns, 1; Charles Gallagher, 2; John E. Burns, 3.

Complete reports for 1917, secured by the U. S. Food Administration, give the total pack of canned tomatoes as 15,076,074 cases of two dozen cans each. This is the largest amount packed since 1914 and is equivalent to more than three cans of No. 3 size for every person in the United States.

Test your seed corn. A little time and trouble now will save you many dollars later.





Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Water for the Dairy Cow

Dr. L. S. Dijkstra

Among the few cheap things in our present circumstances, when everything is twice or three times higher in price than before the war, we may mention water, air and salt. Of these nature gives us an abundance and as they are indispensable to life as well as cheap, let us make use of them as much as we can and in the most profitable way. Especially on the farm we cannot do without them; our stock needs them constantly as well as we.

Without water there could be no life, because water is a part of our existence. Our own body and that of the animals consists of about 90 per cent of water. Without water we should not be able to digest food, because the water dissolves the food. The circulatory system does not take anything that is not dissolved in water. The mixing of food with water begins in the mouth; saliva which is necessary for dissolving or converting the carbohydrates of the food contains about 96% of water. But not only does water serve as a vehicle for the dissolved foods in the body, it also has the service of eliminating waste and poisonous products which the body cannot use. Good milk cows giving, for instance, 40 to 60 pounds of milk a day lose every time they are milked 35 to 53 pounds of water, as the milk consists of about 87½% of water.

The dairy cow takes up much water in her food. The total amount of water needed by a good dairy cow daily is about 100 to 150 pounds. Another important function of the water is, that is regulates the body temperature. Thru the skin and breath, a great quantity of water is regularly lost and in summer time this quantity is, of course, the greatest.

The foregoing shows that our stock needs large quantities of water and it is little wonder that, when neglecting to give the stock sufficient water, the results are disturbed digestion, constipation, loss of milk and other disorders.

Now we ask "how are we to serve the water?" It should be clean in the first place, because dirty, stagnant water is not only liable to cause all kinds of parasitic diseases, as worms or bacterial ills, but it also occurs that the chemical composition is of such a nature that direct poisoning may result. Another important question is: shall we serve the water warm or cold? This is a very important thing at present when everything is so high priced. I hope that every reader may heed this, as what I am saying is from experience on our own farm.

The body temperature of stock is about 100 degrees Fahrenheit. The temperature of well water in general is about 54. The animal that takes the water has to heat the "boiler" with so much "fuel" that the water taken in at 54 degrees reaches the body temperature of 100 degrees.

The "fuel" which the animal uses for bringing the water to the body temperature is the food. Science has given us methods to calculate the quantity of food needed for that heating, on which methods I shall not expatiate here. I made the necessary calculations for our own farm and found that the quantity of food required to bring the well water of 54 to the body temperature, represents a value of about seven cents per day per cow. If we could thus give the cow water of a temperature of 100 degrees, we would not lose any money for water heating, but this will not do, from the fact that such warm water has lost, so to say, its "stimulating effect" on the taste organs in the first place, and, secondly, the animal will not get the feeling of quenching its thirst.

The drinking water thus has to have a certain degree of coolness and in general the fresh well water gives what is desired. But now the question arises as to how to care for the water in winter? This is done in various ways on the different farms. Some have a water tank in the barn, so that the water has the barn temperature and this is an excellent method. On other farms, however, there are no arrangements for watering the stock in the barn and the stock has to get the water from an outside concrete water-tank. This is, in winter time, rather a poor method, as we have to let the cows out twice for drinking, sometimes three times, which, in bad, snowy weather when the cows should not leave the barn, is poor practice.

Aside from this inconvenience it is a matter of course that the freezing weather brings the water in the tank to such a low temperature sometimes that it is, if not frozen, about 33 to 34 degrees. As before mentioned, the animal has to bring this cold water again to body temperature and still more food is necessary as fuel. If a cow drinks such cold water the cost for heating will not be seven, but about 10 cents per cow a day. Such cold

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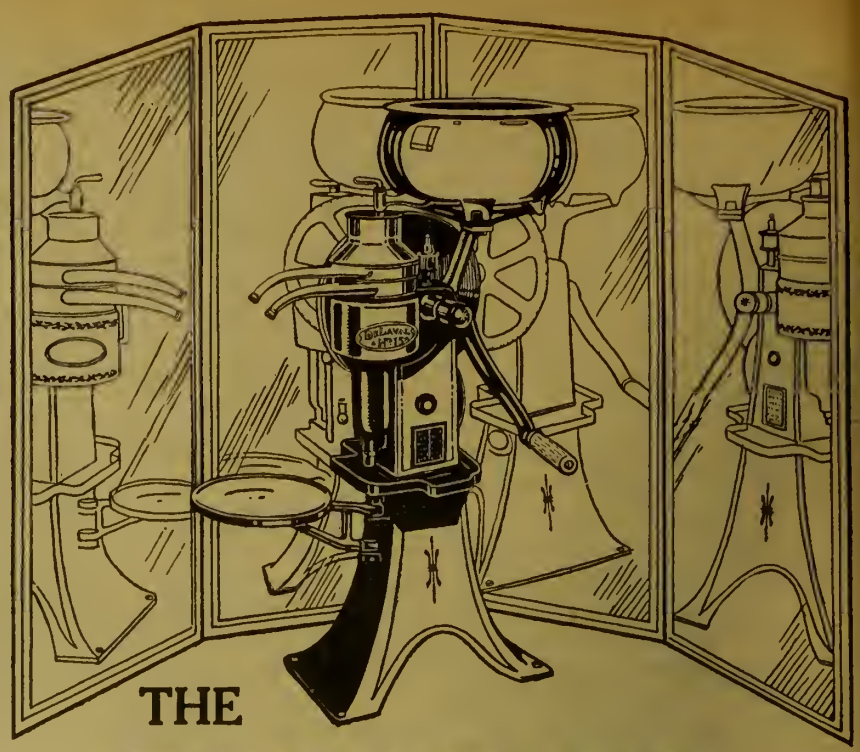

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VIEWED from every angle, the De Laval is distinctly in a class by itself. It has a business-like appearance. It looks as if it were well made, and it is. It looks sturdy, and it is. There is no make-believe about it anywhere, from the wide-spreading substantial base to the solid, seamless, symmetrical supply can.

It's no wonder that big dairymen and creamerymen who have for years made a careful study of dairy methods and machinery refuse to consider any other separator but the De Laval. They know that from every angle—clean skimming, ease of operation, freedom from repairs, durability—there is no other cream separator that can compare with the De Laval.

They know that it has a record of 40 years of service behind it. They know that it can be depended upon. They know that they can't afford to take chances with any other cream separator—

And neither can you.

Order your De Laval now and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on such liberal terms as to save its own cost. See the local De Laval agent, or if you don't know him, write to the nearest De Laval office as below.

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165 Broadway, New York 29 E. Madison Street, Chicago

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THE RELIABILITY OF EVERY ADVERTISER IN WESTERN FARM LIFE IS GUARANTEED

water is, in the first place, considered from a financial standpoint, a loss for the farmer and, secondly, many an animal does not drink as much as it ought to do, on account of it being too cold. Such cold water thus ought never to be given, especially when feed prices are so high.

On many a farm the water is heated by means of a heater and it certainly pays. On our farm we follow the practice of pumping the water in the tank, while the cows are drinking, and if an ice layer covers the top of the water, we simply leave that ice layer on the top and pump fresh water over it. This prevents a cooling off of the well water by mixing with the water that was left in the tank, as I saw some time ago, when I tested same. The bottom layer of the tank had a temperature of 38, then an ice layer, and on the top of this, fresh well water of 52 degrees. I emphasize here once more: heating the water in winter time saves a considerable amount of food. An other Another thing: On many a farm, where stock has to be watered outside, I have seen the custom of letting all the stock loose at a time, sometimes 100 head and more. They rush upon the watertank, hook one another, swallow the water too rapidly, fight and so on, and I need not say that this is not the way of watering stock. We follow the method of leaving 12 cows out at a time and, when these have quenched their thirst, another dozen is turned out.

NOTE: Article on uses of air, salt, etc., will follow in a subsequent issue. —Editor.

Jerseys at Over 9,000 Feet

Will Jersey cows thrive at a high altitude? There has been some discussion on this point, consequently the experience of Fred S. Baehr of Goldfield, Colorado, will be interesting. Mr. Baehr says there is no doubt about it, and he should know, because he is raising Jerseys at an altitude of 9,646 feet. His ranch is located on the south slope of Pikes Peak, two-thirds of the way up toward the summit.

Mr. Baehr is so firm in his confidence that his Jersey stock is good that he sells cows on 30 days trial. When a buyer comes to his ranch and selects a milk animal the owner says: "Take her home with you, try her for a month, and if she doesn't make good, turn her loose and let her find the way back to the ranch."

He has never had one come home to him under this guaranty.

Butter is one of the chief products of the Baehr ranch and it finds a ready sale in the mining camps of the Cripple Creek district at high prices.

"Do you find it hard to get supplies to the ranch when everything is snowed in during the winter?" was asked.

"Not at all," said Mr. Baehr. "In the first place we seldom get snowed in, because the snow does not lie long on the south slope. However, if we did it would make little difference, because we raise nearly everything we eat except sugar, coffee and a few luxuries. We also raise all of the feed we need to take fifty head of cattle thru the winter. Our crops include hay, oats, barley and various root crops. Potatoes do exceptionally well at our altitude. Last fall I took 336 sacks off 2½ acres. These were Early Ohios, some of them weighing five pounds each."

Mr. Baehr has lived in that district for 22 years and made a success of ranching "in the clouds." He says dairy animals brought from a lower altitude naturally require some time to become acclimated, but that after having accustomed themselves to the conditions, no further trouble is experienced; in fact, the stock bred at that altitude is particularly hardy, of strong constitution and has a thick protecting coat; nature fitting the animal to withstand long winters.

Boar Won't Serve.

Answer to O. M. C., New Mexico: I cannot advise you with regard to a remedy for your boar. There are such drugs, but they should be given only by a veterinarian, and their use is not considered particularly advisable. The chances are that the boar is barren; and if you purchased him of a reputable breeder, after the pig was of breeding age, which is about seven months, the man who sold him to you must make good on him; as all breeders of standing sell pigs with the guarantee that they are breeders. In that case, the seller should send you a new pig, and you refund to him the pork value of the pig you have. As it is late now, if you can secure services from a neighbor's boar, it would be better than arranging details of an exchange at the present time.—G. E. M.

Douglas County Calf Clubs

Twenty-four head of registered Holstein heifers arrived here last Saturday from Waupun, Wis., where they were purchased by County Agent Tucker for the Castle Rock State Bank Calf Club, an organization which was exploited by the Castle Rock State Bank for the object of stimulating the breeding of better livestock in Douglas county. The heifers are from the best stock procurable and range in prices from $150 to $325 per head delivered in Castle Rock. They were bought by the bank and distributed among the members of the club at actual cost, the bank taking the member's note for the calf.

In spite of the storms in the east the cattle arrived safely. This would not have been the case, however, had the cattle been transported in ordinary cars. Thru the foresight of Mr. Tucker they were shipped in a palace horse car, which is as far superior to the ordinary car as a Pullman is to ordinary passenger equipment.

One of the five heifers belonging to H. M. Van Horn gave birth to a calf enroute, increasing the value of his herd some $125.

The heifers were distributed among the following club members: N. R. D'Arcy, Arthur Cramer, C. B. Ames, H. M. Van Horn, Chas. Hier, Mose Gray, G. L. Nixon, Arthur Barrett, J. Baldauf, J. W. Tunnicliff and Messrs. McKissack and Geiger.—Castle Rock Record-Journal.

Sturges Steel Churns

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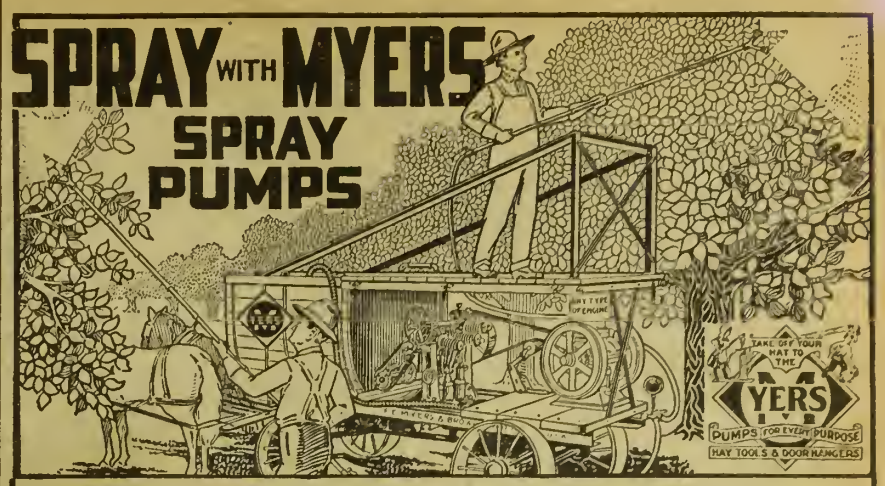
SPRAY WITH MYERS SPRAY PUMPS



Those neglected fruit trees—you will find them everywhere—perhaps you have them in your own yard or out in the orchard, that for some reason or other you have failed to take care of in years gone by and now class them as non-producers, worthless except for shade.

You are surely going to give them attention this spring as well as every other tree, vine, shrub, bush or plant about the place, on which you depend for your fruits, berries and vegetables. Start early with this work before gardening and planting time. Trim up your trees and plants and put new life into them, so they will amount to something and do their bit when the time comes.

Whether you raise fruits or vegetables, you will need a spray pump of some kind so we recommend the MYERS LINE of Bucket, Barrel and Power Spray Pumps to your attention—the Easy Operating Cog Gear Bucket and Barrel Pumps for hand use, and the Myers Automatic Power Pumps and Complete Outfits that do not require a relief valve for extensive power operations.

Go where you will, you will find these Spray Pumps doing things in the spraying world—spraying trees and plants, whitewashing and painting, disinfecting and innumerable other jobs—because they are recognized for their easy operation, speed, capacity and economical use of mixtures, and for these reasons are the choice of fruitmen and gardeners everywhere—Veteran or novice, you will appreciate the efficient spraying service of Myers Spray Pumps.

Ask your dealer or write us immediately about them—Time is limited until you must get busy, and when you start we want you to have a real fighting machine in a Myers Spray Pump.

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SELL YOUR MILK AND RAISE YOUR CALF ON A & C CALF MEAL

FOR ONE-THIRD WHAT THE MILK WILL SELL FOR

Contains all necessary food elements to fatten calves quickly, and keeps them in good condition. If your feed dealer cannot supply you, we will ship you direct for trial in lots of one hundred pounds or more with a guarantee that if your feeding test does not prove every claim we make to let you return what you have not used and pay what you think is fair. Manufactured and guaranteed by

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Save your Fur Skins and have us transform them into beautiful Fur Sets, Robes and Rugs.

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Living

How to make life worth living?
The question haunts us every day;
It colors the first blush of sunrise,
It deepens the twilight's last ray.
There is nothing that brings us a dreaier pain
Than the thot, "We have lived, we are living in vain.'
We need, each and all, to be needed,
To feel we have something to give
Toward soothing the moan of earth's hunger;
And we know that then only we live,
When we feed one another as we have been fed,
From the hand that gives body and spirit their bread.
Our lives they are worth the living,
When we lose our small selves in the whole,
And feel the strong surges of being,
Throb thru us, one heart and one soul.
Eternity bears us, each honest endeavor;
The life lost for love is life saved and forever.
—Lucy Larcom.

THE following is from the United States Food Administration addressed to farm women. The suggestions have been found helpful to the editor of this department and they are given to our readers without change or further comment. The editor will be glad to have letters from farm women telling how they are working out their wheatless and meatless meals and days.

The new home card, issued by the U. S. Food Administration, calls for eleven Wheatless meals a week. This means looking ahead. What are your plans?

A variety of breads adapted to family likings will make the experiment interesting and stimulating instead of a hardship. Shift the wheatless meals, change the forms in which the bread is baked, and change the bread materials. You have cornmeal, rye, barley, buckwheat, oatmeal, rice, and potatoes to help you out. Use the Wheat substitutes that are available and cheapest in your locality.

This is not the stupid task of a drudge, who merely cooks, that you are called to do in the world's great hour, but the fit work for the woman of high intelligence and the understanding heart who is asked as a citizen to bear her part in helping her country meet the needs of a starving world and keep faith with the Allies.

You are the producer. The family is the consumer. Your success will be measured by the amount of wheat flour saved and the satisfaction of your consumers. Insure success by mapping out a program. Make a list of wheatless breakfast breads, dinner breads and desserts to hang in the kitchen. For instance, for breakfast you can have:

WHEATLESS
Buckwheat cakes
Corn cakes
Rice-corn muffins
Rye cakes
Hominy-corn muffins
Corn muffins
Corn-and-rice waffles
Spoon cornbread
Crackling bread
Rye-and-corn loaf
Stuffed brown bread

"LESS" WHEAT
Rice cakes
Rice waffles
Rice muffins
Bran muffins
Oatmeal muffins
Sweet potato muffins
Buckwheat muffins
Johnny cake
Corn-and-wheat waffles
Potato rolls
Bran biscuit

Some of the breakfast cakes in the "wheatless" list may need one or two tablespoonsful of wheat flour for a binder; the other breads are absolutely wheatless. Extend the list as your acquaintance grows. Some of these breads are equally good for dinner. The dinner list will include loaf bread, biscuit, and varieties of cornbread. Try corn dodgers for dinner. These crisp pones will be liked with a vegetable or vegetable and meat dinner. You may have lost the receipe, so it is repeated.

Corn Dodgers—Pour enough boiling water over two cups of cornmeal, one teaspoonful of salt, and one teaspoonful of fat to make a stiff batter. When cold shape into small oblong pones and bake in a moderate oven 25 minutes. Don't allow the pones to touch. Cooking in an iron skillet insures a thick crisp crust.

Convert your family to wheatless bread then spread the gospel to your neighbors. Share with them your knowledge and your enthusiasm. Form a wheat saving circle and report to your State Food Administrator the bushels of wheat saved. A bushel of wheat equals 44.4 pounds of flour. How long does it take your family to save a bushel of wheat for the soldiers, the Allies, and Belgium?

Question: Please give recipe for honey bran cookies—Anxious Patriot.

Answer: This recipe is from Farmer's Bulletin No. 653: 3 cups bran, half cup honey, half cup sugar, half cup milk, quarter teaspoon soda, quarter teaspoon cinnamon, half teaspoon ginger, half cup butter, 2 eggs.

NOTE: A butter substitute can be used and if bran is coarse add a little flour. Mix the ingredients thoroly and drop from spoon on buttered pan and bake about 15 minutes.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2294—Dainty Dress for Mother's Girl. Cut in sizes 2, 4, 6 and 8 years. Requires 3¼ yards 44-inch material for 8-year size. This will make a charming and becoming dress and one that will be real comfortable. The front forms a panel with points that overlap a belt which holds the fullness of the dress at the sides and back. The sleeve has a neat cuff stitched over a straight band.

1604—Practical, Serviceable Garment. Cut in sizes Small, Medium and Large. Requires 4⅞ yards 36-inch material for medium size. Gingham, seersucker, percale, lawn, sateen, drill or alpaca may be used for this model. It is made with a box-plait at the centre front, under which the closing may be finished. The full pocket is a new and desirable feature.

2144—A Simple House Dress. Cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires 6¼ yards of 36-inch material. This model is splendid for gingham, chambray, linen, lawn or percale, and also nice for gebardine, flannel, cashmere and

challie. The closing is at the centre front and the fullness is held at the waistline, over sides and back, by a belt.

2301—A Practical, Serviceable Model. Cut in 5 sizes: 4, 6, 8, 10 and 12 years. Size 10 requires 1⅝ yards for the waist and 2½ yards for the drawers, of 27-inch material. Muslin, cambric, lawn, crepe, flannelette, domet and canton flannel are good for this design. The waist could also be of drill or jean. The waist is slightly full over the front. The drawers are cut with ample fullness and comfortable lines.

Ruth and Her War Piggy.

Little Ruth is helping Uncle Sam by bringing up a piggy on the bottle. Ruth lives with her papa and mamma, Mr. and Mrs. J. R. Smathers, near New Raymer, Weld County, Colorado. The piggy lost its papa and mamma and so Ruth adopted the little "orphant." There is lots of milk on the ranch—great big cans full go to the creamery every day. Ruth can drink all she wants and there is always plenty left for the piggy.

Germany's greatest ally is the false belief in the United States that the war will be short. Face the grim facts. Prepare in your own home, in your business and in your community.

"This new lot of recruits is the worst yet, sir. I had them resting near the bank of the canal, and I gave the command: 'Fall in!'—and all that happened was a big splash'"—Judge.

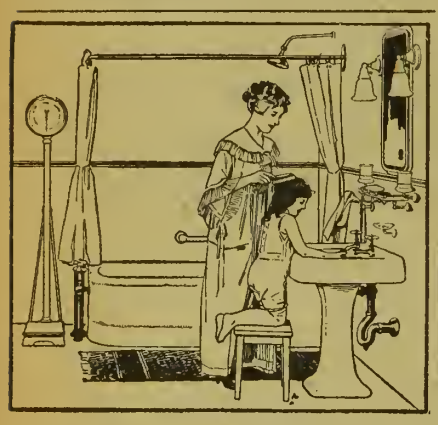
"Why did you leave your last place?" asked the boss.
"I didn't leave it. It left me."
"Rather strange, I should say."
"Not at all. I worked in an ammunition factory."—Indianapolis Star.

U. S. Government Ships Tractors to France

Continued From Page 5

batteries in the shortest time possible and also to assist the French Minister of Agriculture in distributing the tractors and operating them economically.

In addition to the beneficial effect the machines will have on the morals of the French people, the land plowed by the tractors in 1918 is expected to produce 1,500,000 tons of sugar beets and potatoes and 450,000 tons of wheat; and this increased production in France, amounting to nearly 2,000,000 tons of food, will obviate the sending of about 400 large shiploads from America thru the perilous submarine zone.



For Bath Room and Kitchen

"Standard" Plumbing Fixtures—Built-in Baths, Tubs, Lavatories, Closets, Sinks, etc.—should always be specified. Their graceful lines and beauty of finish stamp them as distinctive. The Green and Gold label on each fixture is a guaranty of quality and service.

"Standard" Plumbing Fixtures

should be installed as soon as your arrangements to have running water in the home are completed. Years of manufacturing experience are back of "Standard" equipment. The volume of business done is evidence of merit and satisfaction.

"Standard" Plumbing Fixtures are easy to find. Any plumber or hardware dealer can tell you about them. We publish a complete catalogue, "'Standard' Plumbing Fixtures for the Home"—copy of which will be sent on request. Write for it today.

Standard Sanitary Mfg. Co.
Dept. 236, Pittsburgh

Everything Tastes Better on the Farm

—everybody knows a farmer's wife has a "knack" for making things that taste great.

Why not add to your reputation by using Calumet Baking Powder? There's something about the taste of goodies made with Calumet that makes folks want to eat 'em all day long.

Give more serious thought to your Baking Powder. Try Calumet—follow the directions on the can. New bake-day results will be yours.

Calumet means greater economy, no loss of materials—big, light, flavory bakings—absolutely pure foods and the *same* success *every* bake-day.

Try Calumet at once on our money-back guarantee.

Received Highest Awards

WONDERFUL EGG PRODUCER

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs" and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit-maker, write E. J. Reefer, Poultry Expert, 4243 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar bank guarantees if you are not absolutely satisfied your dollar will be returned on request and the "More Eggs" costs you nothing. Send a dollar today, or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—Adv.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Selecting Eggs for Hatching.

"I followed instructions but I didn't get a hatch." How many times such complaints are heard and the incubator is given all the blame.

Given the most reputable hatching equipment, operated under the most ideal conditions by a most careful operator, a good hatch will result only from good fertilable eggs.

The shell of the egg is a thin porous layer of calcium carbonate or lime. A thin membrane lines the shell and a second membrane adheres to it at all points except at the large end where there is an air space between the two. Within this second membrane there are three layers of albumen or "white", and within these the yolk in its two membranes. The yolk is suspended in the center by two hard white spiral like strands of albumen, called "chalazea". The germ in a fertile egg rests at one side of the yolk just above the watery part called the "utricle", and due to the action of the chalazea this watery part of the yolk or utricle and the germ always float to the top, no matter in what position the egg rests. With this brief explanation, let us consider just what goes to make a good "hatchable" egg and how a chick develops.

Needless to say a good strong germ is the fundamental necessity. Eggs will not hatch unless fertilized. Fertilization takes place well up in the ovaduct before the abumen or "white" and the shell is added in the process of "manufacture". The presence of a healthy vigorous male bird in the flock has nothing whatever to do with egg production, but it has everything to do with good fertile eggs. First, therefore, we must be sure of a well mated flock, free from disease, comfortably provided for and in "the pink of condition" so that the eggs may not only be well fertilized, but that the germ may be **strong**. Too much importance cannot be laid upon the health and condition of the breeding stock.

Many eggs for hatching, fertilized with good strong germs might otherwise produce a living chick, but fail to hatch because they are improperly kept before incubation. An egg may be hatchable when it is laid and then lose its hatchability thru lack of good care. Gather eggs for hatching every few hours to be perfectly safe that they become neither chilled or heated. It must be borne in mind that the germ is a sensitive organism. Chilling will kill it. Incubation, which means the growth and development of the germ, will start at summer heat. A few hours of heat starts development. Then if growth is checked by the eggs becoming chilled the germ dies and is spolled. Keep eggs for hatching in a cool dry place at a temperature of from fifty to sixty degrees, but do not keep them long. The fresher an egg the better it will hatch. Usually it is best not to keep them longer than a week to ten days. If they are to be held more than a few days it is best to turn them once or twice a day to prevent the yolk from settling and sticking to the shell. They may be kept satisfactorily for a short time in a basket covered over with a cloth to check evaporation, and placed where they will be undisturbed.

One other point is important in the selection of good hatchable eggs and that is the character of the egg itself. Some eggs are too long and some too round to be classed as good eggs for hatching. Reject all those that are not normal in shape as well as size.

Defeathering the Rooster.

Would like to know what to do for hens that pull feathers out. The first of the month I put a rooster in with my hens that I expect to use for breeding. They have picked nearly all the feathers off of him. A few days ago I put in another one and they are doing the same with him. I feed them bran mash, all the wheat they will eat, alfalfa leaves, lime, oyster shells, meat, and they have ashes also, and I don't know what else to give them. They do not run out, but have a scratching pen. The first rooster I put in they picked out all of his feathers except his wing and tail feathers. He was a very nice bird but I can't say much for his looks at present.—Mrs. J. W. S., La Plata County.

In my own experience, I have found that feather eating is a habit, accidently acquired. Usually when males fight and become bloody, out of curiosity the hens pick at the blood and so acquire the habit of pulling out the feathers. I have found no other cure (altho I have tried doping the necks of the males with all sorts of vile compounds), than to isolate the male until the habit is forgotten, in the meantime feeding all the animal feed the hens care to eat. Two or three weeks is usually required to make them forget the feather eating habit, but no male should be put back into the pen unless he has grown a new coat of feathers. I should be pleased to know if this remedy proves effective.

A Peculiar Malady.

My chickens quit eating for several days and mope around. They apparently seem like they are choked, twisting their necks like they were trying to swallow something. They continue doing that for several days, sometimes live for two or three weeks and finally die. I have lost at least one-half dozen or more chickens that way.—Mrs. W. S., Huerfano County.

It is impossible to tell what ails your chickens by reading your letter. I have had young chickens choke to death by potato peelings lodging in their throat, which had the symptoms such as you described, but I have never lost grown fowls by choking. I would suggest that you write to the Veterinary Department of the State Agricultural College at Fort Collins, and ask them for directions for shipping fowls for examination. They will do this free of charge and may be able to find the trouble by post-mortem examination.

Farmers' Union Meeting

The Farmers' Educational and Cooperative Union, at its convention held in Denver during Stock Show week, adopted the following resolutions as expressing the desires of the membership on pending questions:

A state law forbidding the holding or ownership of land by any person who is not an American citizen.

A state hail insurance law based on a tax on every acre of land actually cultivated to form a fund to reimburse farmers for hail losses.

The state control of coal mines and the selling of coal direct to the consumer.

An enabling act that will pave the way to the state ownership of all public utilities.

A law that will prevent discrimination in buying and selling. This is aimed especially at the alleged milling trust, the farmers declaring that the alleged trust pays exorbitantly for wheat where there is a co-operative mill in competition and cuts the price down to a minimum where there is no competitive mill.

The union decided to establish a farmers' exchange in Denver. This will cost about $200,000 and will be financed by individual members, local unions, co-operative institutions controlled by the union and by the state union. It will handle virtually everything that a farmer needs, and especially farm implements and farm machinery. The exchange will also handle the farmers' produce and will do away with the middleman.

The union also decided to open its own coal mine and to sell coal direct to the farmers who are members of the union, and, for that matter, the Denver exchange will deal only with members of the union. The coal mine, already owned by the union, is located on the Colorado Midland and Denver & Rio Grande railroads three miles from Palisade.

The entire matter was left to the executive committee with power to act, and this coal mine will be in active operation within time to furnish coal to union members for the winter of 1918-19.

The following officers were re-elected: President—J. M. Collins, Eaton.

Secretary-Treasurer — Louis Roether, Denver.

Executive Committee—C. B. Coffin, Rifle, chairman; T. E. Howard, Arapahoe; J. A. Hicks, Greeley; H. L. Luckey, Haxtun; James Jensen, Berthoud.

Dr. W. R. Callicott of Carbondale was re-elected president of the Farmers' Protective Association, the insurance branch of the union, and Louis Roether was re-elected secretary.

Comment by Farmer Putnam

Continued From Page 9

lines that his letter has been received and contents noted. Mott, if they ever dig out the Moffat road and you kin git over the Divide, drop in on me and have a mess of pintos. Hoover sent me word by Lamson the other day that it warn't no crime, if we raise the hog ourselves, to put a little slab of bacon (home cured), in with the pintos to make 'em slide easier; just so's we don't do that of a Saturday, which is porkless day. Let me know before you start, Mott, so's I kin be down to the depot to meet you. If you cain't come down here because you're too busy raisin' crops, why maybe I kin make it up to Routt and Moffat this summer some time fur a look around with them ranchers that's doin' their share to keep the boys supplied with grub. Now, about paintin' the kaiser's pants, them remarks of yours is O. K., but believe me, Mott, when them Yankee boys of ours breaks loose the kaiser won't have no pants to be painted.

THOMAS JEFFERSON PUTNAM.

Pratt's Ram Brings $18,900

Some of our downeast friends who have been losing sleep over the alleged lack of interest exhibited by the farmer and stock raiser in the war are strangely silent since the stories of the Red Cross donations made at conventions and stock shows in the West have reached them. The account of auctions at the recent National Western Stock show in Denver were given in our last issue. About the same time there was an auction sale of a ram at the meeting of the National Wool Grower's association in Salt Lake City that netted the Red Cross a total of $18,900.

The animal was a purebred Lincoln ram, donated by W. A. Pratt, a well known and successful sheep breeder of Moneta, Wyo. It was sold first for $7,500, the amount to go to the Red Cross to buy woolen blankets, and then re-donated and sold the following day for the benefit of the Harry Lauder Red Cross fund, netting $11,400.

Straight Answers to Timely Questions

What is Pratts Poultry Regulator?
A positive tonic and conditioner for poultry of all kinds and ages. *A health-builder and health-preserver.* Not a food.

What does it contain?
Roots, herbs, spices, mineral substances, etc. Each ingredient performs a certain duty. The combination spells "health insurance."

What does it do?
Pratts Poultry Regulator makes and keeps poultry healthy, vigorous and productive. It sharpens the appetite, improves digestion and circulation, hastens growth and increases egg-production. *It saves feed* by preventing waste due to poor digestion. *It prevents disease* by keeping the birds in condition to resist the common ailments.

Has it been fully tested?
Yes! In general use for nearly fifty years. The *original* poultry conditioner. Imitated, but unequalled.

Does it give general satisfaction?
Positively! *Satisfaction guaranteed or money refunded.* Test it at our risk. Increased egg-production will prove that "Pratts makes hens lay."

How is it best used?
Daily, in mall quantities. For adults, a tablespoonful daily for 10 birds. Younger stock in proportion. Mix with dry or moist mash.

What does it cost?
Nothing, because *it pays big profits.* One cent a month per hen is the *investment* required.

Where can I get it?
From 60,000 Pratt dealers. There is one near you. Direct from the manufacturer, prepaid, if your dealer can't supply you.

How can I learn more about it?
Ask the Pratt Food Co., Philadelphia, for valuable FREE BOOKS on poultry keeping. Write today!

283

PRATT FOOD COMPANY
Philadelphia Chicago Toronto

Pratts

Colorado in the American Egg Laying Contest

S. C. WHITE LEGHORNS EXCLUSIVELY

We advised in our last advertisement that you watch for reports from our pen of five Pullets in the American Egg Laying Contest, Leavenworth, Kans. We stood fourteenth in position for December; we have taken eighth position for the three months' period and for the monthly period we stand fifth. The fifth best pen in 100 pens from nearly all the states and some foreign countries. We are moving up quite rapidly to the front. Hatching eggs, $7.00 per 100 from our flock; special pens, from $1.50 to $3.00 per setting. We will book your orders with a 25 per cent deposit. Better get busy now.

THE ROWLEY EGG FARMS CO., Palisade, Colo.

10,000 DAY-OLD CHICKS **40,000 EGGS FOR HATCHING**

S. C. White LEGHORNS

The Famous TOM BARRON Egg Machines--282 Egg Blood

Our Leghorns are range-raised, strong, healthy and vigorous. Tested 8 years for heavy egg production. Sure winners at the egg basket. Why not come to headquarters for bred-to-lay Leghorns? They will cost you no more. Highest quality—lowest price. Get our big free price list before you buy eggs, chicks or stock. Write

THE FOWLER EGG FARM **Fowler, Colo.**

Coffee, 20c Lb.

In 5 and 10-lb. sacks; 18c in 100-lb sacks. Extra choice Rio brand. Stores usually ask 7 to 10c a pound more. You can save money on hundreds of other items in our money-saving Grocery Catalog and new Big Book of Bargains. Just out. Write for free copy today. GENERAL MERCANTILE CO.
"The Great Mail Order House"
727 S Ninth St. Omaha, Nebr.

Get the Best Incubator

for Mother, the girls and the boys. Exceptional opportunity this year to make big money. Prices for Poultry and Eggs High and Feed Cheap. Our Big Instructive Book FREE!

ALL EXTRAS FREE

SURE HATCH

Learn how other women make hundreds of dollars easy on a little plot of ground. Help win the war. Increase the Poultry supply. The Government tells how to utilize scraps and waste—tops of vegetables, leaves, etc. These make best poultry feed. All this told in Big Sure Hatch Book. Begin early and right. *It's free, write today for this valuable information*

SURE HATCH (20 Years of Success) Box 51 Fremont, Nebr.

TELLS WHY CHICKS DIE

E. J. Keefer, poultry expert of 424 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhoea over night. All poultry raisers should write for this valuable free book.

Poultry Book Latest and best yet: 144 pages, 216 beautiful pictures; hatching, rearing, feeding and disease information. Describes busy Poultry Farm handling 53 pure-bred varieties. Tells how to choose fowls, eggs, incubators, sprinters. This book worth dollars mailed for 10 cents. Berry's Poultry Farm, Box 66, Clarinda, Iowa

Farmers' and Stockmens' Exchange

Advertisements will be inserted in this department for 5c per word; four or more insertions, 4c a word each insertion. Remittances can be made by postoffice money order or personal check. Advertisements are set in uniform style, no display type or illustrations admitted under any circumstances. Every figure and initial counts as one word. Guaranteed circulation over 50,000 copies each issue. WESTERN FARM LIFE is issued semi-monthly the first and fifteenth of each month. Advertising copy for this department must reach us ten days before date of issue. It carries the most classified advertising because it gives you best results. Send us in a trial advertisement. Write for proof showing how these columns pay advertisers.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

LEGHORNS

S. C. BUFF LEGHORNS, HEASLEY'S EGG Basket strain. Mrs. J. W. Kyffin, Fowler, Colo.

L. D. GOOCH, SEWARD, KAN., WILL SELL R. C. Brown Leghorn cockerels $2.00 each if taken soon.

L. B. RICKETTS, BREEDER OF PRIZE WINning Single Comb White Leghorns, Greensburg, Kans.

PURE BRED ROSE COMB BROWN LEGHORN eggs, $6.00 per 100. Mrs. Art Johnston, Concordia, Kans.

S. C. BROWN LEGHORNS—SETTING EGGS, $8.00 hundred; $1.25 setting. W. L. White, Altamont, Kan.

SINGLE-COMB BROWN LEGHORNS—COCKerels, $2.50; write for circulars. Chas. Bowlin, Olivet, Kan.

SINGLE COMB BROWN LEGHORNS, WINNERS of the blue in four states. Eggs $6.50 per 100. Wm. Roof, Maize, Kans.

SINGLE COMB WHITE LEGHORN BABY chicks, 15 cents each. Orders booked now. Mrs. Anna Hege, Sedgwick, Kan.

BARRON S. C. WHITE LEGHORNS. BABY chicks. Hatching eggs. Satisfaction guaranteed. F. B. Morger, Fowler, Colo., R. No. 1.

CHOICE S. C. W. LEGHORN COCKERELS—eggs and chicks in season, from extra layers. Mrs. Geo. W. Stephens, R. No. 4, Lexington, Neb.

HEWITT'S S. C. BUFF LEGHORNS—GREATest layers on earth. Eggs $2.50 per 15, $5.00 per 50, $8.00 per 100. Mrs. Philo Hewitt, Lexington, Nebr.

SINGLE COMB WHITE LEGHORNS, HEAVY winter layers; 13 years in the business; hatching eggs, day-old chicks. Riverside Poultry Farm. H. D. Walker, La Junta, Colo.

EXCELSIOR FARM SINGLE COMB WHITE Leghorns. Yesterlaid-young strain cockerels, $2; 3 for $5. Eggs, $5 per 100; baby chicks, 12 cents. Mrs. C. C. Cole, Levant, Kans.

HAINES HUSTLERS—EGG-BRED PEDIGREED Single Comb Buff Leghorn; strong winners at Gold Special and Kansas State Federation shows; eggs from exhibition pens and range flock; cockerels from 200-egg hens. Pearl Haines, Rosalia, Kan.

ORPINGTONS

SINGLE-COMB BUFF ORPINGTON COCKERels; best breeding and great size, $5.00 each. Sunflower Ranch, Ottawa, Kan.

PURE BLOOD WHITE ORPINGTON COCKERels from selected laying stock, $3.50 to $5.00 each; also fine hens, $2.50 each. Try some of the Orpingtons in Eastern Colorado. Vida M. Fletcher, Wiley, Colo.

S. C. BUFF ORPINGTONS, THE FOWL FOR the fancier, farmer and back-lotter. Book egg orders early and avoid the rush. A few good breeding cockerels at $4.00, $5.00 and $7.00 each. F. M. Shank, Route 2-A, La Junta, Colo.

PLYMOUTH ROCKS

WEIGHER-LAYER BARRED ROCK COCKERELS $3.00 to $5.00. C. F. Fickel, Earlton, Kan.

BARRED ROCKS. BABY CHICKS. HATCHing eggs. F. B. Morger, Route 1, Fowler, Colo.

BARRED ROCK COCKERELS. BIG BONED. Egg strain, $3.00. Mrs. A. E. Huff, Lancaster, Kans.

WINTER LAYING STRAIN BARRED ROCKS—Cockerels. Eggs, $5—100, $1—15. Valuable circular free. O. E. Skinner, Columbus, Kan.

WINTER LAYERS — BARRED PLYMOUTH Rock Eggs; 15, $1; 100, $5. Mrs. Lon Edwards, 1105 Garfield Ave., Loveland, Colo.

BARRED PLYMOUTH ROCKS—EGGS FOR hatching from four selected pens, both matings and range flock. Incubator eggs, $5.00 per 100. Send for mating list. Chester Blunt, Route 1, Greeley, Colo.

PARTRIDGE PLYMOUTH ROCKS — THE beauty and utility breed—stock for sale that are prize winners. Pullets $2.00, cockerels $3.00 to $5.00 each. Eggs for hatching $1.50 and $3.00 for 15 eggs. Satisfaction guaranteed. A. R. Stover, Manzanola, Colo.

BARRED ROCKS. BIG WINNERS AT STATE show, Wichita, 1918. Excellent winter layers. Large handsome birds with narrow fancy barring to skin. A few cockerels yet. $5.00 each. Ship on approval. Send for mating list describing birds and choice pens mated for the egg trade. Geo. Sims, LeRoy, Kans.

CORNISH

QUALITY DARK CORNISH. MATING LIST. R. H. Jandebeur, Alma, Neb.

DARK CORNISH FOR SALE—MATED TRIOS, pens and single birds; big winners at all Denver shows. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

SALE OF STOCK—I HAVE DISPOSED OF MY Dark Cornish to the Townsend Poultry Ranch, 5600 Broadway, Littleton, Colo., together with my business and good will. Send future orders and inquiries to above address. W. W. Officer, Fowler, Colo.

WYANDOTTES

WHITE WYANDOTTE EGGS FROM TRAP-nested stock. Mary M. Wright, Route 2, Boulder, Colo.

GOOD ROSE COMB WHITE WYANDOTTE cockerels left, $2.50 each. Robert Fulliton, Austin, Nebr.

CHOICE WHITE WYANDOTTE EGGS AND chicks; good laying strain. Eunice E. Stephens, Lexington, Neb., R. No. 4.

WHITE WYANDOTTES—PRIZE WINNING AND heavy laying strain; choice birds for sale. Miss Anna Lansdown, Fort Lupton, Colo.

ANCONAS

SINGLE-COMB ANCONA COCKERELS, $3.00 each. Quality Ancona Yards, Morganville, Kan.

RHODE ISLAND REDS

THOROBRED ROSE COMB RHODE ISLAND Red cockerels cheap. Claude Musselman, Lyons, Nebr.

FREE—MATING LIST READY. ISRAEL'S Quality Plus Single Comb Rhode Island Reds. Get it. Lou R. Israel, Osceola, Nebr.

HARRISON'S NON-SITTING SINGLE COMB Reds. (250 egg strain). Mating list for customers. Robert Harrison, Lincoln, Nebr.

LOWER'S POULTRY FARM, ARVADA, COLO., is the oldest and largest breder of reliable Single Comb Reds in the West. Send for circular.

EGGS FOR HATCHING—ROSE COMB REDS exclusively; prize-winning, heavy laying strain. Write for mating list. E. A. Miller, Alma, Nebr.

ROSE COMB REDS, 100 EGGS, $6.00 AND $8.00. S. C. Brown Leghorns. 100 eggs, $6.00 and $7.00. L. D. Speenburg, Belleville, Kans.

ROSE COMB R. I. REDS. DARK BRILLIANT. Baby chicks. Hatching eggs. Satisfaction guaranteed. F. B. Morger, Route 1, Fowler, Colo.

MINORCAS

SINGLE COMB BLACK MINORCAS. I HAVE a fine lot of cockerels for sale. Also year-old hens for mating, eggs and baby chicks. Reasonable. Write for prices. H. R. Suydam, 4500 Bryant St., Denver, Colo.

SUSSEX

RED SUSSEX—LIMITED NUMBER EGGS AND few females for sale. Won at Chicago Coliseum in 1916 and 1917. Rees Evans, Box 29, Ardmore, Okla.

BRAHMAS

THOROBRED LIGHT BRAHMAS. SETTINGS for sale. E. Grosser, 2240 Perry St., Denver.

SEVERAL VARIETIES

S. C. REDS, WYMORE AND HICKMAN WINners. Stanley Kaura, Wymore, Nebr.

HALL'S S. C. REDS AND WHITE ROCKS. Big stock show winners. Eggs for hatching, reasonable. Liston L. Hall, Gering, Nebr.

WANTED, EGGS—BARRED ROCKS, WHITE Rocks, Rhode Island Reds, White Wyandottes. Highest cash price paid. Wm. H. Walter, 176 S. Broadway, Denver, Colo.

FOR SALE, EGGS—EGGS FROM ALL KINDS of purebred poultry; three kinds of geese, seven kinds of ducks, pearl and white guineas, bantams, fancy pigeons, rabbits, guinea pigs, canaries. Write wants. D. L. Bruen, Platte Center, Neb.

BABY CHIX

BABY CHICKS—YOU BUY THE BEST, GUARanteed alive, at Colwell's Hatchery, Smith Center, Kan. Shipped anywhere, 12 cents.

KANSAS LARGEST POULTRY FARM. HATCHing eggs, baby chicks. Free egg circular. Write today for complete list twenty best varieties. Modlin's Poultry Farm, Topeka, Kans.

COLUMBIA HATCHERY—ALL LEADING VArieties of baby chickens, cockerels, turkey gobblers and hatching eggs in incubator lots. We ship to all parts of Colorado, Wyoming and New Mexico and guarantee live delivery to your express office. Write for our price list and particulars. P. O. Box 1102, Denver.

COLUMBINE BABY CHICK CO.—WE ARE booking orders for early delivery of baby chicks, Rhode Island Reds, Barred Rocks, White Leghorns, etc., etc. Price, $2.50 per 12, $18 per 100. We ship everywhere and guarantee live delivery. Book on chicken raising, treatment and care free with all orders. For selected stock pullets and cockerels, write for price list. Box 74, Denver.

TURKEYS

FOR SALE—5 NICE WELL FORMED WHITE Holland turkey gobblers, $5.00 each. Mrs. J. H. Pfaff, Route 1, Platteville, Colo.

PET STOCK

COLLIE DOGS, ALL AGES, MATRONS BRED and open stud dogs and puppies. Frank Davis and Sons, Holbrook, Nebr.

INCUBATORS

IT'S GOOD BIG HATCHES YOU WANT. DENver Incubators are built and tested for this dry climate and positively hatch big, strong chicks. Get our free catalog. Low prices, with freight prepaid. Coal-heated colony brooders $17.50. Our lamp-heated brooders can't be beat. For Sale—Baby chicks and hatching eggs from Hoganized flocks that will make you money. Selected from the best in Colorado. Denver Incubator Co., 175 South Broadway, Denver, Colo.

NURSERY STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

SEEDS AND NURSERY STOCK

WHITE DENT SEED CORN FOR SALE. CHAS. T. Lewis, Keota, Colo.

SAN LUIS SEED PEAS—CARLOAD OR LOCAL shipments. Prices and samples gladly submitted. A. A. Salazar & Son, San Luis, Colo.

GUARANTEED EVERBEARING STRAWBERRY plants. Will produce fruit the first year. Progressive, $1.25 per 100. Superb, $1.00 per 100. Not prepaid. Ed Kechn, Littleton, Colo.

BUY TREES FOR YOUR ORCHARD OR GROVE and have two and thre years to pay at the same time. All stock that fails to grow replaced free. Address Weldon Valley Adv. Co., Weldona, Colo.

CHOICE, EXTRA LARGE GRADED PINTO beans, grown at 6,500 feet, double sacked, germination tested, state label. Hundred pounds lots or more, $12.50 per cwt. F. O. B. Calhan. Arobine Ranch, Calhan, Colo.

CHOICE WHITE SWEET CLOVER AND ALfalfa at farmers' prices. J. M. Lewis, Virgil, Kan.

PEDIGREED SEED POTATOES, ABSOLUTELY pure. Famous Dean Baking Rurals, $4 cwt.; Bliss Triumph, $5 cwt. Pure type. McClellan Seed Co., Greeley, Colo.

EVERBEARING STRAWBERRY PLANTS; PROgressive variety; flavor, heavy bearing qualities and ability to bear in cold weather makes them best small fruit for mountain states. Price $2.00 per 100, $5.00 for 300, $15 per 1,000; prepaid. J. L. Salladay, Arvada, Colo.

LUMBER

READY-CUT HOUSES AND BARNS, WHOLEsale, mill prices. Plan book free. Keystone Lumber Co., Tacoma, Wash.

LUMBER—POSTS. WRITE US ABOUT PRICES delivered your station. Send list for estimate. Pay after unloading. Kirk Company, Box 1188-S, Tacoma, Wash.

TRACTORS

12-20 EMERSON KEROSENE TRACTOR, WITH plow outfit; almost new; terms. H. A. Todd, Hatod, N. M.

FOR SALE—LITTLE BULL TRACTOR, $275. Twelve 100-lb. shotes; weanling colts; White Plymouth Rock cockerels. Lone Tree Ranch, Carr, Colo.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's, the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

TANNING

LET US TAN YOUR HIDE—COW, HORSE OR calf skins for coat or robe. Catalog on request. The Crosby-Frisian Fur Co., Rochester, N. Y.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

HELP WANTED

WANTED—EXPERIENCED FARMERS TO RENT farms under good irrigation system at Rock River, Wyo. All farms have sufficient acreage in alfalfa and good buildings; close to good school and adjoining free range. For further information write H. W. Brettell, Rock River, Wyo.

WANTED IMMEDIATELY—MEN, WOMEN, 18 or over, U. S. Government positions. Hundreds clerical positions obtainable; $90 month; quick increase; easy work. Write immediately for list positions. Franklin Institute, Dept. N-174, Rochester, N. Y.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

REGISTERED HOLSTEIN BULL CALF, 8 months old, $75.00. Geo. S. Turner, Canon City, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Held, Sterling, Colo.

FOR SALE — 21 REGISTERED YEARLING Hereford heifers, bred very strong in Anxiety blood lines. Price $175 per head. J. O. D. Ranch, Aroya, Colo.

HOGS

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC-JERSEY HOGS—LARGE, BIG-BONED, registered and immune. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

YOUR OPPORTUNTY—TO BUY A DUROC-Jersey herd boar, sired by Colorado Golden Model, or, Colorado Good E. Nuff. Have 10 choice animals to select from. Priced to move quick. Address City View Farm, Box 718, Pueblo, Colo.

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

GOVERNMENT LANDS—BOOKLET. JOSEPH Clark, Sacramento, Cal.

I WANT TO HEAR FROM OWNER OF FARM OR unimproved land for sale. Mrs. W. Booth, Pulaski, Iowa.

WANTED—TO HEAR FROM OWNER OF GOOD farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

FOR SALE—640 ACRES OF THE BEST IMproved dry land in Douglas Co., cheap, with or without stock and implements. G. Gerber, 417 28th St., Denver, Colo.

I HAVE SOME CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give full description, location and cash price. James P. White, New Franklin, Mo.

FOR SALE—280 ACRES IRRIGATED RANCH, 120 acres under cultivation. Close to city of Salida, runs along county and railroad, five minutes to school house, good grazing lands. Owner, Jno. Drobnick, Salida, Colorado, R. F. D. Box 73.

IRRIGATED FARM FOR SALE—225 ACRES five miles from Denver Stockyards, one mile from railroad station. First-class water right, excellent improvements; liberal terms. J. D. Hitch, 525 Cooper Bldg., Denver.

RELINQUISHMENT FOR SALE—OTERO CO. homestead; 320 acres with improvements, 25 acres in cultivation; have used my homestead right in reason for selling. Don't overlook this great chance for homesteader. Address P. O. Box 148, Breckenridge, Colo.

HALF SECTION DEEDED, FENCED, FOUR miles to railroad station; 120 acres cultivated, will cut 70 tons native hay; abundance of seepage water; excellent farm for corn, beans and wheat; owner drafted; must sell. Write for full particulars. C. K. O'Byrne, 326 Symes Bldg., Denver, Colo.

HAY RANCH—PRODUCES 500 TONS SOUTH Park hay; deeded, 72 feet decreed water rights, improvements, adjacent railroad, town and forest reserve. Ideal for hay or stock ranch. Yearly income about $13,000; must be sold immediately. C. K. O'Byrne, 326 Symes Bldg., Denver.

WE FORECLOSED ON 600-ACRE RANCH, Western Slope, half agricultural, half range. Good water rights, buildings, eight miles from market, adjoining United States Forest Range. Will sell reasonably, part cash, terms on balance. Splendid proposition. Interstate Trust Company, 15th and Stout, Denver, Colo.

MISCELLANEOUS

FOR SALE OR TRADE—25-45 INTERNAtional Tractor and 32-62 Baker Separator. Robt. D. Albrecht, Otis, Colo.

FOR SALE OR WOULD TRADE FOR CATTLE or range horses—One Reg. French Draft Stallion and one Mammoth Jack. Apply to R. Pryor, Box 272, Las Animas, Colo.

Carlot and Steer Classes

Following are the carlot beef awards and the awards in steer classes made at the National Western Stock Show in Denver, publication of which was deferred because of lack of space in previous issue:

Carload Awards

Class No. 174—Carload, 15 head, fat steers or heifers—Ray Reynolds, Longmont, Colo., 1; Great Western Sugar Co., Denver, Colo., 2; E. D. Miner, Fort Collins, Colo., 3.

Champion carload fat steers or heifers—Ray Reynolds, Longmont, Colo., champion; Great Western Sugar Co., Denver, Colo., reserve champion.

Class No. 176—Carload, 15 head, fat steers or heifers, two-year-olds (Shorthorns), (American Shorthorn Breeders' Assn. Specials)—Ray Reynolds, 1; E. D. Miner, 2; Van Gundy Bros., Sterling, Colo., 3; Porter Land & Inv. Co., Denver, Colo., 4.

Champion carload fat steers or heifers (American Shorthorn Breeders' Assn. Specials)—Ray Reynolds, champion; Great Western Sugar Co., Denver, Colo., reserve champion.

Grand champion carload of fat cattle (American Shorthorn Breeders' Assn. Specials)—Ray Reynolds, Longmont, Colo., 1.

Grand champion carload of fat cattle (Swift & Co. special)—Ray Reynolds, Longmont, Colo., 1

Class No. 191—Carload, 20, breeding heifers, yearlings—Tom McCurdy, Madison, Neb., 1; Schafer & Gray, Boyero, Colo., 2.

Class No. 192—Carload, 20, breeding heifers, calves—Hereford Corp. of Wyo., Cheyenne, Wyo., 1; Stockham Bros. & Kellian, Delta, Colo., 2; N. L. Harrison, Roggen, Colo., 3; Dan D. Casement, Manhattan, Kan., 4.

Champion carload breeding heifers—Hereford Corp. of Wyo., champion; Thomas McCurdy, reserve champion.

Carload, 15, registered bulls, yearlings—Mortimer & Ochsner, Madison, Neb., 1; Davis-McConnell Co., Saratoga, Wyo., 2; A. B. Cook, Townsend, Mont., 3.

Class No. 194—Carload, 20, registered bull calves—Otto Fulscher, Holyoke, Colo., 1; Hereford Corp. of Wyo., 2; John E. Painter & Sons, Roggen, Colo, 3.

Champion carload registered bulls—Mortimer & Ochsner, Madison, Neb., champion; Davis & McConnell Co., reserve champion.

Class No. 174—Carload, 15 head, fat steers or heifers, two-year-olds—Ray Reynolds, Longmont, Colo., 1; Great Western Sugar Co., Denver, Colo., 2; E. D. Miner, Fort Collins, Colo., 3.

Champion carload fat steers or heifers—Ray Reynolds, 1; Great Western Sugar Co., 2.

Class No. 176—Carload, 15 head, fat steers or heifers, two-year-olds—Ray Reynolds, 1; E. D. Miner, Fort Collins, Colo., 2; Van Gundy Bros., Sterling, Colo., 3; Porter Land & Inv. Co., Denver, Colo., 4.

Champion carload fat steers or heifers—Ray Reynolds, champion; Great Western Sugar Co., reserve champion.

Grand champion carload of fat cattle (American Shorthorn Breeders' Assn. Special)—Ray Reynolds, Longmont, Colo., 1.

Grand champion carload of fat cattle (Swift & Co. Special)—Ray Reynolds, Longmont, Colo., 1.

Steer Classes

Class 158—Champion steer, spayed or martin heifer—Geo. W. Baker & Co., Littleton, Colo.

Class 173—Champion steer, spayed or martin heifer (American Hereford Assn.)—Geo. W. Baker & Co.

Class No. 160—Grade or cross-bred yearling steer, spayed or martin heifer—Willow Dell Tom (Hereford), Univ. of Neb., Lincoln, 1; Ord Dick (Hereford), Univ. of Neb., 2; Valley Prince (Shorthorn), Univ. of Neb., 3.

Class No. 171—Hereford, two-year-old steer, spayed or martin heifer—Geo. W. Baker, Littleton, Colo., 1; Geo. W. Baker, 2; O. H. Sholes & Son, Holyoke, Colo., 3.

Class No. 172—Yearling steer, spayed or martin heifer, American Hereford Assn. Specials—Univ. of Neb., 1 and 2.

Class No. 167—Grade or cross-bred calf steer, spayed or martin heifer—Roan Jim 1603 (Shorthorn), Colo. Agr. College, 1; Bluebeard (Shorthorn), Univ. of Neb., 2; Mark 1605 (Shorthorn), Colo. Agr. College, 3.

Class No. 165—Grade or cross-bred two-year-old steer, spayed or martin heifer—Matador (Hereford), Geo. W. Baker, Littleton, Colo., 1; Black Prince 1501 (Shorthorn), Colo. Agr. College, 2.

Class No. 173—Hereford calf steer, spayed or martin heifer (American Hereford Cattle Breeders' Assn. Specials)—B. T. Bartlett, Greencastle, Mo., 1; Univ. of Neb., Lincoln, Neb., 2; B. T. Bartlett, 3.

Class 153—Calf steer, spayed or martin heifer (American Shorthorn Assn Specials)—Univ. of Neb., Lincoln, Neb., 1.

Class 159—Two-year-old steer, spayed or martin heifer—Muskogee, L. R. Kershaw, Muskogee, Okla.

Class 160—Yearling steer, spayed or martin

Turn to Page 19

Denver The Live Stock Market

Denver is the Highest Market **Most of the Time** and the Best Market **All the Time** for Western Cattle and Sheep.

Time and again cattle have sold on the Denver market for higher prices than the same cattle would bring same days at the Missouri River.

Why don't you market your cattle and sheep at Denver, where they will bring you greatest net returns?

JERSEY BULL We have for sale a Jersey bull calf, born September 19, 1917. He is out of Golden Rod's Dahlia, a very large cow of good type, who is the dam of the heifer winning Junior Championship at Denver two years ago. This bull calf is sired by Minnie's Sans Aloi, a son of Financial Countess, former world's record cow. Sans Aloi was selected by Mr. Hugh Van Pelt as the herd sire for his Jersey breeding farm in Iowa. Mr. Van Pelt was Judge of the Jerseys at Denver this year, and his judgment on both type and breeding is as good as that of any breeder and Judge in the country. This calf should improve some Colorado herd. Price $100.00.

We now have a new Jersey herd sire, and everyone interested in Jerseys should look for his get next year. He is sired by a son of Gamboge Knight and is out of a Show cow with a record of 839.9 lbs. of butter in a year.

ANIMAL HUSBANDRY DEPARTMENT
Colorado Agricultural College **Fort Collins, Colorado**

BUY YOUR

Blackleg Vaccine, Cattle and Sheep Dips, Branding Liquid, Cotton Seed Cake and Meal, Range Salt, from

Davis Watkins Dairymen's Mfg. Co.

Successors to
THE L. A. WATKINS MDSE. CO.
1513-23 Wazee Street **Denver, Colorado**
Stockyards Office, 318 Livestock Exchange Bldg., Denver, Colo.

HIGH-CLASS JERSEYS AND DUROCS

Majesty Oxford Combination, half brother to the grand champion at Columbus, at head of herd.
A September calf, by Count Majesty, out of Imp. Cowslip's Sweet Bread, an imported cow; a nice straight calf, solid color and good, at right price.
A spring boar, by Proud Chief Jr., out of Dixie Girl, by Lee's Defender, at right price.
Also a few September pigs out of a daughter of Model Critic, by a son of Grand Model. Prices right.

A. M. McCLENAHAN, Greeley, Colo.

$25 Holsteins $25

You can buy calves for less but when you buy stock from Roberts you get value received. High Grade 15-16 pure, 5 weeks old calves. Specify markings. Express paid. Satisfaction guaranteed for $25. Cows $125.
J. A. ROBERTS
Cattle Expert Waukesha, Wis.

Shorthorn and Polled Durham Cattle

Valentine's Last, X12316, 452008 at head of beef herd. Claywood White, 427350 at head of milk type.

STATE INDUSTRIAL SCHOOL
Golden, Colorado

BARGAINS Percherons, Belgians, Shire, Suffolk, Clyde, Hackney, Great Coach Stallions, $450 and up. Good Jacks. One, two and three years' time given purchasers.
R. L. LITTLE
Good Block **Des Moines, Iowa**

BLUE RIBBON HERD
DUROC JERSEY HOGS
Everything Registered
Stock for Sale
C. P. BURKE, Rocky Ford, Colo.

Be cheerful. Mental depression checks digestion. Poor digestion wastes food. Wasted food helps the enemy. Cheerfulness is conservation.

Carlot and Steer Classes

Continued From Page 18

heifer, American Aberdeen-Angus Assn. Specials—Univ. of Neb., Lincoln, Neb.

Champion steer, spayed or martin heifer—Univ. of Neb., Lincoln, Neb.

Class No. 161—Calf steer, spayed or martin heifer—R. R. Lucore, Arriba, Colo., 1; Univ. of Neb., 2.

Champion steer, spayed or martin heifer (American Aberdeen-Angus Assn. Special)—Custer Chief 1980, Univ. of Neb., champion; Knollwood Bonton 2d, R. R. Lucore, reserve champion.

Class No. 163—Yearling steer, spayed or martin heifer (American Galloway Assn. Special)—Univ. of Neb., Lincoln, Neb.

Class No. 162—Two-year-old steer, spayed or martin heifer (American Galloway Assn. Specials)—Univ. of Neb., Lincoln, Neb., 1.

Class No. 164—Calf steer, spayed or martin heifer (American Galloway Assn. Specials)—Univ. of Neb., Lincoln, Neb., 2.

Champion steer, spayed or martin heifer (American Galloway Assn. Specials)—Univ. of Neb., Lincoln, Neb., Bonnie Laddie 43854, champion; Worthy Laddie 43855, Univ. of Neb., Lincoln, Neb., reserve champion.

Champion steer, spayed or martin heifer—Matador, Geo. W. Baker, Littleton, Colo., champion; Roan Jim 1603 (Shorthorn), Colo. Agr. College, reserve champion.

Class No. 169—Yearling steer, spayed or martin heifer (American Shorthorn Assn. Specials)—Univ. of Neb., 1 and 2.

Class No. 170—Calf steer, spayed or martin heifer (American Shorthorn Assn. Specials)—Univ. of Neb., 1; R. G. Maxwell & Sons, Fort Collins, Colo., 2.

Champion steer, spayed or martin heifer (American Shorthorn Assn. Special)—Roan Jim, Univ. of Neb., Lincoln, Neb., champion; Valley Prince, Univ. of Neb., Lincoln, Neb., reserve champion.

Modern warfare consists of united, co-ordinated effort on the part of entire nations. If the present war teaches Americans to co-operate it will not have been entirely wasteful.

Tubbs-Woods Combination
Duroc Bred Sow Sale

TO BE SOLD IN

NORTH BEND, NEB., TUESDAY, MARCH 5, 1918

52 Head

L. B. WOODS, North Bend, Neb., will sell eight tried sows, two fall gilts and twenty-two spring gilts. These are sired by High Model Chief, Cherry Sensation, King The Colonel 2d, Duroc Judge, U Colonel, Gold Nuggett, Wonder Model, Pal's Giant, Sir Longfellow and Smooth Giant. They are bred to **WONDER GANO** by Grandview Gano, dam by Belle's Crimson Wonder, and **BIG PAL** by Pal's Chief 4th by Pal's Colonel.

Jerry Tubbs, North Bend, Neb., sells seven tried sows and thirteen spring gilts. These are sired by Pal's Giant, Sir Longfellow, Smooth Giant, etc., and are bred to a son of **PAL'S GIANT and another choice spring boar.** This offering is very growthy and in fine sale condition.

The blood lines throughout are up to date and the sows are showing well for big litters. It is one of the last sales of the season and buyers will find a valuable class to select from.

Send for Catalog to

PERRY J. TUBBS or L. B. WOODS **North Bend, Neb.**
Cols. Thompson and Others, Auctioneers **A. H. Forke, Fieldman**

Kansas Germ-Free Fluid Vaccine for Blackleg

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died.—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

The Kansas Blackleg Serum Co.

Livestock Exchange Bldg., Room 407, Denver, Colo.

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred

We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Write us for prices and detailed information.

OFFICES

First National Bank Building, Cheyenne, Wyoming
406 New Live Stock Exchange Building, Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager

WM. J. ROSSMAN, Ranch Superintendent **JAMES C. ADAMS, Salesman**

J. O. D. Ranch Duroc Jersey Hogs

Our herd boar is Orion Cherry King 15th, the Senior Champion of the Denver Show, 1918.

Did you see our barrow, who was made Grand Champion Barrow over all breeds and sold for 50c per lb., the world's record price ,and afterwards dressed cold 91 per cent, another world's record.

Just such stock we can sell you in registered boars and gilts. Write us for prices.

J. O. D. RANCH, Aroya, Colo.

Fruit Growers Using Traps for the Codling Moth

Continued From Page 4

the bands are reinforced by the use of traps: for while the worm can crawl thru the wire mesh of the trap, the moth into which the worm in the chrysalis state under the band develops cannot get out thru the wire mesh. To sum up: for the worm free access to the trap and the band which it protects, but for the moth no egress or escape from the trap.

Things To Be Observed

But the value of the traps as supplementary aids to the bands depends absolutely on the way in which the traps are placed in position on the trees. Four things must be observed: (1) As in the case of the bands, there must be an overlapping of at least two inches of the mesh of the trap. (2) The two edges of the trap must be nailed down so securely that the moth cannot by that route escape and yet with sufficient leeway to allow for the growth of the tree during the life of the trap. (3) There must be a free space two inches in width from the upper edge of the band to the upper edge of the trap and a like free space from the lower edge of the band to the lower edge of the trap. (4) The traps must be put on in such a way as to raise the wire mesh three-quarters of an inch from the band. This is by far the most important thing to observe, for if the trap touches the band the moth as it emerges from the chrysalis state may get thru not only the band but also the trap and so escape. The "crimping" of the edges of the trap helps, but to secure to the trap the proper bulge, nails such as are used in putting on slate roofing should be driven the proper distance into the tree thru the bands. These nails will raise the traps the desired height, three-quarters of an inch, from the bands.

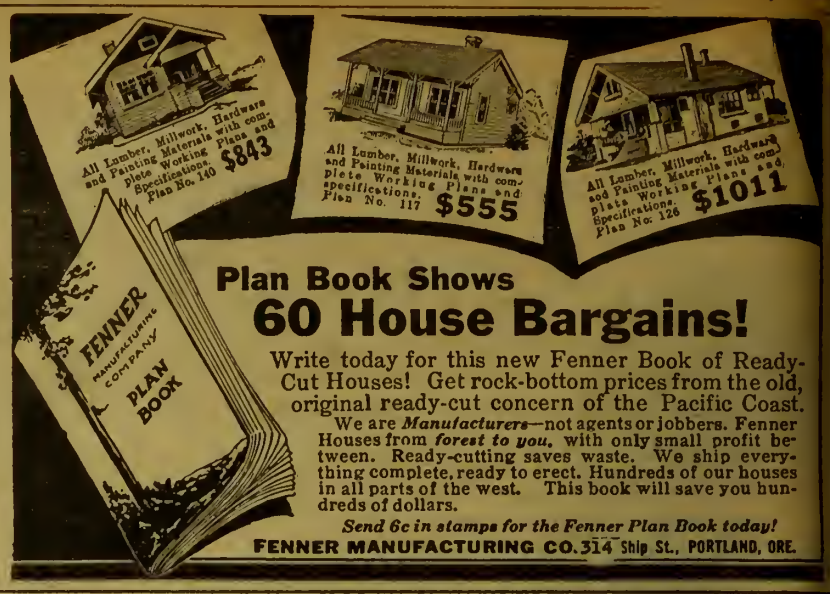
Two questions remain. The first has reference to the length of time the traps can be left on the trees without renewal; the second, to the cost of the traps. The answer to the first depends primarily upon the age of the trees; the answer to the second, upon the cost of the wire mesh and the cost of the labor required to make the traps and to put them in position. It is thot by some that on trees over fifteen years of age, the trunks of which do not expand so rapidly as do the trunks of trees under that age, the traps can be left on for a period of three years, possibly a year longer. But in view of the tests that have so far been made all that can be said with any degree of certainty is that the traps can be used without renewal at least for two years. Whether they can be used on the older trees for a longer period remains to be seen.

Tedious and Expensive

The putting on of the traps is, in the nature of the case, a tedious and, therefore. a costly, process. Even so, the cost of placing the traps on the trees as they should be would not be greater than the cost involved in running the bands for a season. Once, however, the traps are on, there need be no further outlay until the traps need renewing. This would spell a considerable saving even tho the traps should last not longer than two years. Then, if the grower so desires, the traps can be put on in the fall when work in the orchard is somewhat slack and when the cost of labor may not be so high as in the rush season in the spring.

But the serious problem concerns itself not with the cost of labor in putting on the traps, but with the cost of the wire mesh out of which the traps are made. 'he price of all kinds of wire is going up, and while the war lasts will undoubtedly continue to do so. Will the cost of the wire mesh for the traps be prohibitive? That is the question for any and every grower who would use the traps to decide for himself. Here, at any rate, is the decision to which two of the growers in the Grand Valley, J. Lee Morse and C. E. Wixon, have come. These two gentlemen, two of the best orchardists in the valley, during the past season used the traps on a limited scale in their orchards. They are both convinced that the traps are all the experts claim for them. During the present year Mr. Morse is planning to use traps on all his trees. A year ago Mr. Wixon bought more wire mesh than he worked up into the traps, which he used for experimental purposes. This year he will put on his trees the traps which he can make out of the mesh which he now has on hand, and stop there. In view of the present high price of wire, he feels that he would not be justified in going farther. Thus, as I have indicated, the problem is up to the individual grower.

But for the orchardist who uses the traps the following should be emphasized: (1) Put the bands on with the utmost care and put on bands made out of colored material. (2) Be exceedingly careful to place the traps on the trees properly. This matter is so vital that the experts put upon it the greatest possible emphasis. Unless the traps are put on properly, the orchardist can have no right, so they tell us, to expect the traps to do their part in rounding up the codling moths.



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WESTERN Farm Life

ol. XX Denver, Colorado, March 15, 1918 Semi-Monthly

President Wilson Speaks to the Farmers of the West

THE farmers of this country are as efficient as any other farmers in the world. They do not produce more per acre than the farmers in Europe. It is not necessary that they should do so. It would perhaps be bad economy for them to attempt it. But they do produce by two to three or four times more per man, per unit of labor and capital, than the farmers of any European country. They are more alert and use more labor-saving devices than any other farmers in the world. And their response to the demands of the present emergency has been in every way remarkable. Last spring their planting exceeded by twelve million acres the largest planting of any previous year, and the yields from the crops were record-breaking yields. In the fall of 1917 a wheat acreage of 42,170,000 was planted, which was one million larger than for any preceding year, three millions greater than the next largest and seven millions greater than the preceding five-year average.

But I ought to say to you that it is not only necessary that these achievements should be repeated, but that they should be exceeded. I know what this advice involves. It involves not only labor but sacrifice, the painstaking application of every bit of scientific knowledge and every tested practice that is available. It means the utmost economy, even to the point where the pinch comes. It means the kind of concentration and self-sacrifice which is involved in the field of battle itself, where the object always looms greater than the individual. * * *

You remember that it was farmers from whom came the first shots at Lexington, that set aflame the Revolution that made America free. I hope and believe that the farmers of America will willingly and conspicuously stand by to win this war also. The toil, the intelligence, the energy, the foresight, the self-sacrifice and devotion of the farmers of America will, I believe, bring to a triumphant conclusion this great last war for the emancipation of men from the control of arbitrary government and the selfishness of class legislation and control, and then, when the end has come, we may look each other in the face and be glad that we are Americans and have had the privilege to play such a part.

(From the President's address telegraphed to a conference of farmers held at Urbana, Ills., for the purpose of discussing food production problems.)

Woodrow Wilson

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Volume XX | DENVER, COLORADO, MARCH 15, 1918 | Number 6

Farmers' Institutes Held in the Montrose Country

UNCOMPAHGRE VALLEY LOOKS TO LIVESTOCK FOR PROFITS

ALVIN T. STEINEL

WATER coming thru the longest irrigation tunnel in the world has converted barren sagebrush land into an agricultural district excelling in productivity any river valley farmed under natural rainfall anywhere. "Making the desert blossom as the rose" is a threadbare saying in the west, because everywhere that water is intelligently applied on our virgin soils the miracle has happened. Over the range in the valley of the Uncompahgre ("the incomparable valley with the unpronounceable name," as President Taft aptly expressed it at the ceremony of the opening of the Gunnison tunnel), what water will do was known before the tunnel was projected. Water from the Uncompahgre river has been used for irrigation since the early days of Western Slope settlement, but there was not enough to go beyond the confines of the narrow valley. The long benches or mesas flanking the stream in natural ramparts for miles and miles, with their sagebrush covering and loosely textured, friable soil, invited the eye of the trained farmer who knew what water would do when applied to the land.

Thru a tremendous rift in the mountains, just across the mesas eastward, thunders the Gunnison river, shooting a volume of foaming water over the rocks to the Grand. The gorge which gives it passage is one of the west's natural wonders, known as the Black canon, with sheer walls along which no flumes could be built to carry the water out for irrigation.

Tapping this supply of water, the government has built the Gunnison tunnel, 30,580 feet in length, carrying water thru the mountain range and turning it out upon the Uncompahgre valley and its paralleling mesas, where it does agricultural duty and then flows back into the Gunnison below the town of Delta. Piled up in the back country from whence the waters come are huge mountain masses where snow fills the gulches even in midsummer and where each winter sees a new covering many feet in depth, providing moisture for the farmer who tills the valley several thousand feet below.

The town of Montrose is the business center of the upper valley. There the altitude is 5,800 feet. The water comes out of the west portal of the tunnel at 6,400 feet and does irrigation duty until it returns to the stream at 4,900 feet, at a point below Delta. The irrigable area on the government project is 108,000 acres, about 52,717 acres being under cultivation. On this cultivated area there was raised in 1917 farm produce to the value of $3,051,000, or an average production of $57.89 per acre, figured at wartime prices.

Irrigation is necessary in the valley, as the annual rainfall at Montrose averages but 9.45 inches. There is a frost-free period of varying length; in 1917 it was 165 days; in 1916 it was 155 days; 152 days in 1915 and 179 days in 1914; an ample growing season for corn and other staple farm crops.

Onion Seed Crop Grown by Arthur L. Franklin in 1917, Near Olathe. From Seven-eighths of an Acre He Raised 460 Pounds of Onion Seed and Sold It for $10 a Pound, Realizing $4,600 on Same

The rainfall on the higher mesas is said to be somewhat greater, so that dry farming is practiced with some success. Land values vary with the soil conditions. The best improved land for general farming purposes sells readily at $150 per acre; some of the upland is held at $100 to $125; rougher land goes down to a minimum of $50. There are portions of the valley where the adobe soil offers obstacles to cultivation for several years until gotten in good tilth, where values are quoted from $50 to $100, and here and there a spot that is worth little for farming, even tho water is to be had.

Much of the land under the government project was taken up under the reclamation act, and the land owners will finally pay for the irrigation system put in by the government. Up to the first of the present year, a total of $6,436,863 had been spent in building the system. Operation and maintenance charges have been paid by the water users, but the first payment on the plant is to be made December 1, 1922, and twenty years is given for full payment of the cost of the project. For some time the water users, who are united in a strong organization, wanted to take over the project from the government, but recently an agreement was reached which is considered satisfactory, and the government continues in charge.

About 7,000 acres of the project lands remain at the disposal of settlers, and these lands, all in small units of 20 up to 80 acres, will be open for entry March 30 and up to 9 a. m. on April 5th, this year. Application must be made to the United States Land Office at Montrose, and must be accompanied by $3 for each acre of irrigable land in the farm unit selected. This payment takes care of the water charges for the first three years. Where more than one person files on a unit, ownership will be decided by a drawing. It is necessary to go to Montrose to select the lands. Many of the small units cannot be profitably used for farms except in connection with adjoining areas of land, and these will probably be taken up by the members of families already in the district. The units of forty aces and upward will make separate farms, and there will be considerable competition for these.

A similar opening of lands on the Grand Valley project, but comprising only 5,000 acres under the Grand canal, is scheduled for Grand Junction this month—March 23 and up to 9 a. m. March 29.

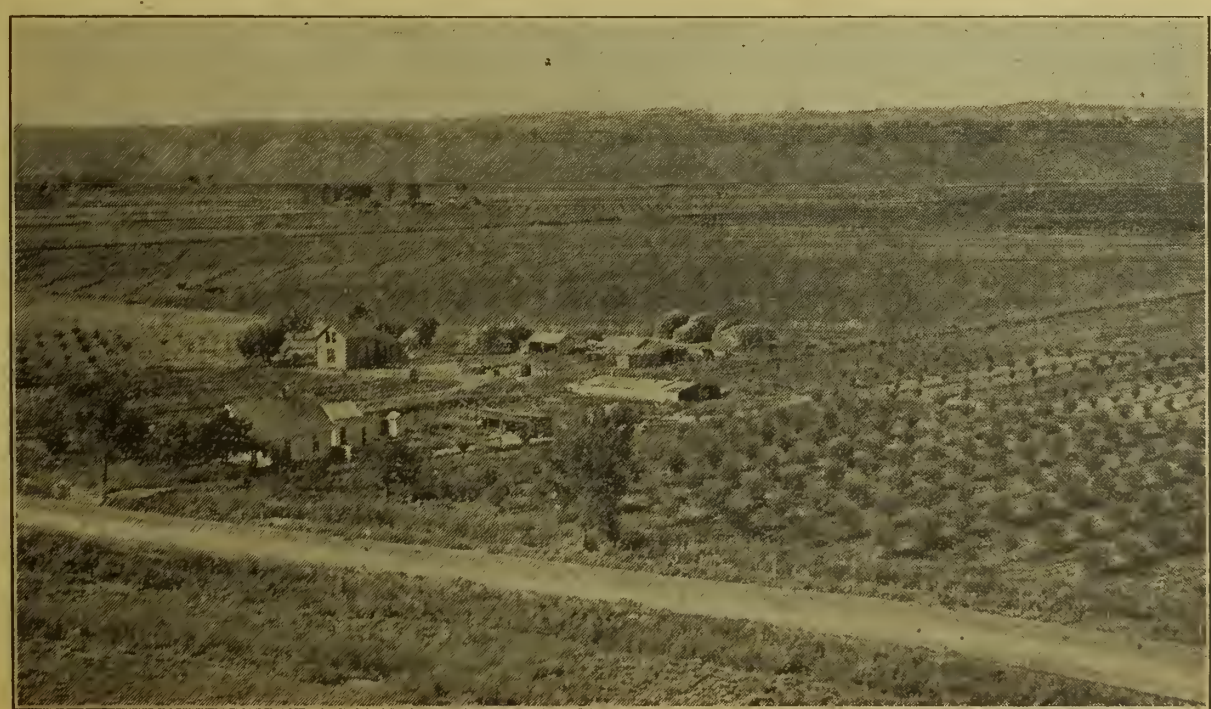
The government maintains agricultural service for the benefit of the project farmers, the agriculturist being H. A. Lindgren, who is doing splendid work in laying a livestock foundation for farming. Originally the valley was given over largely to fruit-growing, but marketing troubles and the fluctuations of prices that make orcharding an uncertain business, together with occasional crop losses thru adverse weather conditions, caused a change in the farming plan on the Uncompahgre project. The orchards are still a good source of income, but they have taken second place. Alfalfa has taken first place in the cropping system and with alfalfa came livestock farming as distinguished from ranching, which has been followed in the higher country since pioneer days and will continue an important industry indefinitely.

Some crop figures for 1917 will prove interesting. Alfalfa was produced on 19,435 acres, the total poduction being 54,057 tons. There was wheat on 10,404 acres with a total yield of 247,427 bushels. Sugar beets are another of the important crops, there being 1,310 acres with a yield of 10,954 tons. The beets are converted into sugar at Grand Junction.

Corn is one of the new crops. It has been grown in a small way for some years and with success, but the silo has made it an essential crop. In 1917 there were 1,725 acres in corn, producing 39,864 bushels of grain. In addition, six hundred acres of silage corn was produced, the average yield being 8.6 tons per acre. There are 62 silos now on the project and more are being built this spring.

Potatoes are one of the important cash crops, 6,000 acres being planted last year, with a total yield of 718,788 bushels. Onions are one of the specialties, there being 569 acres in this crop, with a total yield of 80,642 bushels. A start has been made, also, in onion seed production, some re-

Turn to page 19



Birdseye View Between Sunset Mesa and Spring Creek Mesa in the Uncompahgre Valley, Showing Fruit and Livestock Farming

Woman Farmer Gives Milk Selling Experiences

SUGGESTS FEDERAL INSPECTION TO REMEDY EXISTING EVILS

CLAIRE HUSTED ONEILL

IT was my intention to say at the beginning that I am a woman farmer, but as I am merely trying to tell my experience in selling milk to Denver dairies, I do not think it necessary to do so. From all available information, if I had been the most stalwart representative of the sterner sex, or the fairest flower of my own, my experience would have been undoubtedly the same.

Last fall I started shipping milk to the ..... dairy in Denver. The receipt of my first two milk checks was so exhilarating that my mind was quite absorbed by the simple fact that I did receive them. The second month, being no longer a novice, I began to read my milk records carefully. The test was satisfactory, but my cows seemed to have a positively chamois like ability to leap from 97 pounds a day to 160, back and forth, and in between. I made a particular note of the fact that shipments for seven days, which to my own positive knowledge had consisted of two ten gallon cans so full that the lids could only just be put on, varied from 114 to 160 pounds, according to the dairy's returns. Then I tried another dairy. The weights here were satisfactory but in 24 hours my test dropped from 4.1 to 3.5 and so remained for a month. At the end of this time I sent a courteous message to the management, asking if special supervision would be given to my test, so there might be no danger of mistake. This request was met with wrath. I was told that farmers thought themselves too smart, and they did not want my milk any more. I wanted to ship to the first dairy again, but they would not accept it. I received a rude note to that effect. I called up every dairy I had heard of, and no one wanted my milk. Milk was a drug on the market, in spite of Mr. Hoover and the Allies. Finally, after two weeks, thanks to Mr. Sweet of the Federal bureau of markets, and Mr. Morton, the State Dairy commissioner, who kindly came to my assistance, I again have a market for my milk. I have talked to my neighbors and my experience has been a common one. One had tested regularly with a Babcock tester, another had his milk weighed by the station agent and the weight written by him on the tag, all to no avail.

The Writer of the Accompanying Article Is Seated on the Tractor Wheel. Photo Taken on Mrs. Oneill's Farm Near Littleton, Colorado

They are all cheerful about it, because they are looking forward to the ultimate success of the Milk Producers association. Undoubtedly it will succeed; any people's movement, when caused by economic pressure, has a way of succeeding. The only thing that can prevent it is remedying the conditions which make it necessary.

I do not wish to say or imply that all the dairies cheat all of the farmers, all the time, or that when such a thing occurs that it is done with criminal intent. It may be carelessness of employes, or inefficiency of management. But whatever causes it, or whenever it occurs, the producer is the victim and he has no come back.

Now when I sell my wheat, a Federal inspector tests it, and that test is official, and it protects the consumer and it protects the big powerful corporation which owns the mill, and it protects me. Just think, I, an humble farmer, who bought the land and the tractor and the plows and the binding twine at 22 cents a pound, and all the rest of it, and paid the labor, and spent an anxious year awaiting winter killing and drouth, and so grew and finally harvested the wheat, for which the world is starving, I was protected too!

When I sell my milk this is what happens. The city health officer tests the milk, and his test is official, and it protects the consumer. Next the dairy tests it and that is official. Then the milk producer can test it if he wants; no one gives a whoop whether he does or not, it's not official and it does not protect him. Now, just suppose there was a federal milk inspector, and he tested, and his test was official, and it protected the consumer and the dairy, and even the gentlemen who own the cows who give the milk! But what is the use of supposing, it would be too good to be true!

Meat Buying In the U. S. By the Allied Nations

NEW SYSTEM IS EXPECTED TO BENEFIT THE PRODUCER

JOSEPH P. COTTON of the U. S. Food Administration

THE U. S. Food administration during this winter has been able to establish a $15.50 minimum price on hogs at Chicago, and maintain that minimum, not by any virtue of any price-fixing law, but by the simple comercial method of regulating the foreign buying so that the heavy buying should be done when the hogs were plentiful and prices kept reasonably steady at all times. With a steady market the producer can feel reasonably certain of getting a price when his hog is ready, and he does not have to watch his market, and he is not subject to the power of the buyer to cut the price as low as he wishes in times when hogs are plenty.

On December 1, 1917, the U. S. Food administration began an entirely new system of buying meats in the United States for the Allies. Before that time the allied nations had bought meat in this country as best they could—in competition with the domestic market and each other—often feverishly, and to meet emergencies.

As was inevitable, such buying was a large factor in the sky-rocketing process of meats last fall. Not only did that demand help put prices up, but it put prices up irregularly. The fatback of the hog, for instance, had been in especial demand for France and Italy, and as a result of that demand the relative value of the fatback (as compared with other cuts of the hog) went up out of proportion. The English had been accustomed to a particular cure of lean hogs, and in consequence lean hogs were at a market premium as compared with fat hogs. That has had a bad effect because hogs were being killed before they were ready to market, and at a time when soft corn would be wasted unless it went into making weight on the hog.

The problem was to find a way to end these difficulties; first, to adjust the supply to the demand so that temporary shortages should not be used by speculators to boost the market or permit speculative profits; and, second, to stabilize prices so that the Army and Navy, the domestic trade and the Allied Nations should all buy on the same general price level and yet protect the producer.

As the first step, the Allied Nations all came together and established a single buying commission for handling meats and similar products. This commission pooled all the orders, standardized specifications and contracts, and adopted a system of regular buying so that the trade would know a reasonable time in advance what was required and be ready to meet the demands with the minimum of inconvenience to the domestic business.

To handle the business the Food administration established an executive organization which should place the orders and advise with the Federal Trade commission and other established organizations as to prices.

Allies Centralize Buying Power

At the threshold of its work, that organization had to meet and determine several questions. The first question was prices. As to prices one thing was obvious. There must be a standard price on each specified product to every packer and no discrimination between packers. What the price is to be is an expert question which differs in each case. I will speak of these prices later.

The second question was: Which packers shall get a share of foreign orders? The answer to that was somewhat difficult. The business could not go by favor. It must not unduly disturb the distribution of meats to the people of the United States; it must be divided on some sound, fair theory which would produce results. On going over the trade it was found that the shipments must all be in carload lots, and of standard quality, which would meet foreign requirements. That meant that it was an absolute necessity to confine the foreign business to packers who had equipment enough and experience enough to handle the business economically and efficiently, and—above all—promptly.

Then it was found that many of the packers, particularly the smaller ones, for a long time had had a substantial British business and made a specialty of the British trade. They had spent much money to establish—and had established—trade names and good will in Great Britain. It would be foolish to take them out of the British business and force them to find new markets in the United States for their product; that would mean new agents and new branches. Therefore the principle was adopted of placing the British business with those packers who had done the business before (who were approved as to efficiency by the Allied Purchasing commission), in substantially the proportions that they had done the British business before. In general that principle has been followed, and results in the distribution of this and other European business among about 40 packing concerns.

How Prices Were Determined

The question of prices of the allied buying is determined on the following lines: Buying experts first ascertain the cost to the packers of the hogs, the cut-up value of the hogs (i. e., the percentage of the hog which is meat) and the proportion of the value in the several cuts. These tables of figures are revised at least monthly. Then these prices are compared with other markets, with the Army and Navy competitive prices, until a price is finally made.

The price made as to any one item may be somewhat too high or too low; in handling so great a volume of orders nothing like precise or mathematical accuracy is obtainable as to each separate order, for in every month one or more million pounds of pork products must be shipped. But approximate fairness can be reached; and inasmuch as the packers' total profits are regulated, any error will be averaged up. Up to February 1, 1918, the packers have been able to answer all calls for product made upon them, and there has been no failure in prompt handling. The system has not been working long enough to form any final judgment and doubtless can be much improved, but it is working better than the old uncordinated buying.

Benefits of New Buying System

The new system of buying has been for the benefit of the Allied nations in that their supply has been assured at not excessive prices.

It has benefited the American consumer in that the menace to the market of unrestricted foreign buying which tended to sky-rocketing of prices has been removed.

It has benefited the producer. First, in that the foreign buying orders thus held in a single hand have been used to uphold slumps in the markets when the run of hogs was heavy—and have protected the minimum of $15.50 per hundred pounds for the average of the packers droves on the Chicago market. This minimum established by the Food administration has made it possible for the producer to breed with confidence of a fair price when his hogs come to market, and has thus helped to keep up production.

Second, the producer is benefited in that the foreign buying in a single hand should furnish a protection from unduly high prices in time of scarcity of hogs. If you had told a farmer a year ago that high prices for hogs did not help him, he would think you were trying to put something over on him; but he is beginning to realize that high varying prices are an evil to his business. High prices of hogs and cattle shoot up the feed prices so that they are out of reach. Sharp rises in the market are the speculators' paradise, and in every rapid market the speculator finds his way in and he reaps the reward—not the farmer. Sharp rises are followed by sharp falls that catch the unlucky. The American farmer takes enough chances with the weather without taking a chance in the market.

Third, for the reasons stated the producer of hogs is better able to do his part in helping the war with confidence that he knows where he will come out.

Meat and Milk Situation Reviewed by Morton

NATION'S WELFARE FIRST CONSIDERATION OF THE PRODUCER

GEORGE E. MORTON

THE government reports the United States situation on meat animals as follows: Beef cattle, two and one-half million long in the past year; sheep, two and one-half million short; hogs, four million short. This leaves us, in view of our army needs and the sales to our associates in the war, a real shortage on meat animals. The situation with regard to hogs is, of course, the most serious. The Food administration estimates that 30 per cent of the pork production of the country during the coming year will be purchased for armies and navies. With 30 per cent of our normal production diverted from its usual channels, and a shortage of four million hogs, we can easily see that it is necessary for every man on a farm to grow as many hogs as is at all reasonable. We cannot leave it for the other man to do. We will hope for a zone which will allow us a profit on our pork, but whether or not we get it, we must, as citizens of this country who are in control of a certain field of production, hold production to the point of greatest efficiency for the conduct of the war.

While we want a reasonable profit for our labor, just as we believe other classes of producers, laborers and manufacturers should get such a profit, nevertheless we can do without profit on so necessary a thing as pork if there is no other way in which pork can be supplied. The first thing we have to keep in mind is that we must win this war. It is not a question of whether we are going to be better off financially as individuals, when the war is over; rather, it is a question as to whether America is going to continue a satisfactory place for us to live in.

The sheep shortage is more serious from the wool standpoint than from that of meat supply. There has been a very encouraging tendency during the year towards keeping small flocks upon farms, where they have not heretofore been maintained. A small flock of sheep is very easily kept on the average farm, entailing almost no labor, and they pay their way by keeping waste spots clean of weeds. With wool where it is, the wool crop will more than pay the cost of keeping a sheep for a year; and the lamb furnishes a carcass of light weight which can be consumed during the summer months while fresh, something which cannot be done with the beef carcass. I think we need not worry about the beef cattle or dairy products situation; but I do think we must bend all our energies to raise as many of the pigs and lambs as possible, cutting down our spring losses by close attention to ewes and sows at lambing and farrowing time.

MILK SITUATION—Mr. Raitt of the Dairy Commission is investigating market milk conditions in Denver, and will complete his work March 10th. Mr. Schroeder started for Wisconsin ebruary 10th to purchase one hundred head of Holstein, Jersey and Shorthorn cows for the North Fork of the Gunnison. He expects to purchase also about twenty-five head of cattle for Huerfano county.

I have no new word with regard to milk conditions in the smaller towns of the state. Denver districts claim to have an over-supply. Fort Collins has a distinct shortage at present. Condenseries are again becoming interested in the state with a view to possible locations. Libby, McNeill & Libby have written, inquiring about a section around Delta, which they investigated a year ago at our request. A representative of the Borden condensery was in recently to the Montrose-Olathe section, looking over the ground. The president of the Waterloo Creamery Company, a firm having condenseries in Nebraska, visited Fort Morgan on the occasion of the recent Morgan County Dairy Day.

MEAT SITUATION. A good many cattle men feel that the government estimates with regard to a surplus of cattle are high, and they are feeling quite confident with regard to the marketing of the coming year's crop of beef cattle. Lamb feeders have been materially relieved by the Food administration's order releasing lamb and mutton from the forbidden list on Tuesdays. This exemption holds until April fifteenth, when the bulk of our lambs will have gone to market.

Swine growers have raised the following question with regard to the "Thirteen to One" ratio, which the Food administration said it will attempt to maintain. This ratio means that the U. S. government and associated nations in their purchases will try to maintain as a minimum price for hogs, a price equal to the market price of thirteen bushels of corn, the price of corn to be based on ordinary market grades at Chicago, extending over the entire year, weight being given to the monthly price in proportion to the percentage of corn usually fed to hogs in that month.

The point which our Colorado feeders are bringing up is that corn price is the Chicago price, so that in purchasing corn to feed, we must, in this state, figure the added cost of freight. The pork price also is the Chicago price, and on that we must figure the Chicago price, less the freight; so that we face a discriminatory price for our hogs, equal to this double freight charge. The hog growers hope to succeed in establishing a mountain zone, where corn is not grown to a great extent for hog feeding. If this cannot be done, a number of men must drop out of the work of pork production, not simply from lack of prospective profits, but because they will find it prohibitive to purchase corn, and have little other grain to feed, except wheat.

This is particularly true of our Western Slope in Colorado. Large quantities of potatoes are being fed to hogs in this state in order to save them, as it appears that it will be impossible to secure cars enough to market them, and also because in many cellars, the potatoes are rotting down and must be fed or they will give a total loss. Commercial cattle feeders, who must market before May, are facing a loss upon their operations this year, just as the lamb feeders, who have already marketed, have taken a loss. This situation is due not simply to a reduced consumption of meat, but also to high prices paid for feeder stock as it went into the feed lots, particularly in the case of lambs. The established feeders can, most of them, weather the loss and feed again next year on a more conservative plane; but the newer feeders in such sections as the Uncompahgre Valley, who are feeling their way out with regard to rations and are not certain that feeding can be carried on successfully in their localities, are very much discouraged by the situation. I believe, however, it will not result in a complete wiping out of this new industry in the Western Slope.

How a Baseball Game Started a Fine Family Garden

STORY OF A HIT THAT SMASHED A WINDOW PANE

SID KARNS

IN the grand American game of baseball, you have heard, perhaps seen, the hit that won the game, but I'll wager you never heard of a baseball winning anything in the grander game of American agriculture. Now, did you? I never did until I came across the Farrell family of Douglas county, Colorado. I have been thrilled scores of times when watching a game of baseball, to see the star batter step to the plate with three men on bases and two men down. How everyone held their breath until the man at the bat made "the hit that won the game." As I sat there in the "bleachers", fairly trembling with excitement, I never so much as dreamed that I should ever hear of a baseball playing a part in a successful scheme of agriculture. But I have and here is the story.

"See that vacant lot," said Mr. Farrell, calling my attention to the ground that adjoins his residence lot. "Well, that lot was once a community playground, where the children of the neighborhood mobilized their youthful forces in pursuit of their daily play—my children included. And that lot has been the scene of many a bloody battle minus the blood—between reds and whites, Deadwood Dick bandits and desperate man hunting posses, not to say anything of the circuses, carnivals and, last but not least, the exciting games of baseball that have been staged on its fertile surface. It was one of those exciting games of baseball that transformed that lot into a food producer. It was an ill-directed foul ball, driven by the youngest boy in my flock, that summoned all the stars and moons in the heavens before my misty vision, after it had crashed thru the west window. This ten cent league ball not only raised a lump on my pate as large as a hen's egg, but it opened my eyes to the possibilities of that vacant lot as a family food producer and, in cash—which was not contemplated at first—it has paid, many times over, for the countless window panes that met a like fate to the one recorded above. In fact, that foul ball was the hit that proved a winner."

Here, Mr. Farrell and I sat down on the porch, where he told me how, after warming the pants of the youthful Jay, he had mobilized his family of two boys and three girls for a successful agricultural drive against the nation-wide food shortage, at the same time knocking the legs out from under the high-cost-of-living, as far as it affected his family.

I would like to give you our conversation, word for word, but space limitations prohibit. It was filled with problems more interesting than any baseball game. How those youthful farmers tilled the soil, planted the seed, cultivated and harvested the crops, under their father's immediate supervision. How that barren, but fertile vacant lot was made to bloom like an oasis in the desert. A penny-dreadful was tame alongside the experiences this little Farrell army had with the destructive cut worms. Wall Street, with all its frenzied finance, could not produce the thrilling moments these children experienced when marketing their surplus produce from house to house among neighbors. Margarette, the eldest of the three girls proved the star sales producer. In fact, she did nearly all the selling, the others of the family being content to care for the garden and prepare the produce for market. The cash taken in by these children from their garden amounts to $46.00, as follows:

Clifford, Jay, Margarette, Mildred and Charlotte Farrell, a Gardening Family of Castle Rock

Radishes, 100 bunches at 5c per bunch	$ 5.00
Spring Onions, 50 bunches at 5c per bunch	2.50
Parsnips, carrots, beets, and turnips	15.00
Early cucumbers	9.00
String beans	4.50
Green peas	3.00
Tomatoes	4.50
Sweet corn	2.50
Total	$46.00

Two beds of radishes were planted ten days apart which gave the youngsters one bed producing all the time. They had a wonderful tomato crop and all the yields were large.

Besides this cash, they filled the family cellar with produce for winter use. Outside of the vegetables that were canned by Mrs. Farrell they put in founr hundred pounds of turnips (these turnips were raised without irrigation and were monsters, as the accompanying illustration shows); fifty pounds of winter onions, six squash, twelve pumpkins, 25 large heads of cabbage, and about one hundred and fifty pounds of carrots and parsnips.

County Agent Tucker says that the Farrell children would have carried away all the prizes at the county fair

Turn to page 6

Chickens on the Homestead

Alice Brown

A profit of $41.27 from 12 hens in one year and how I did it may prove encouraging to some one else. Health compelled a change of climate so I moved from an eastern state onto a dry claim in Colorado. In this way I hoped to regain my health, save my very small bank account, or at least be able to meet my necessary expenses without help. Living away from home among strangers in any other way would oblige me to accept help, and I determined to avoid that if at all possible. Neither was I without hope that my claim would prove of value later, but that is another story.

The 26th of March I bought 12 brown leghorn pullets, which were just beginning to lay, for which I paid $6.00. Had I known at the time of the difficulties in obtaining feed for them I doubt if I should have attempted raising chickens on a dry claim. My need to piece out my meager savings led me to try, and I am glad I did.

For a while I fed them a quart of oats a day and all the sour milk they could drink. Later the grasshoppers came. "It's an ill wind that blows nobody good," and they proved very good chicken feed, combined with sour milk and grass. They were laying well and I was delighted, for they had cost me nothing for feed except the oats which had been used as packing when I had shipped my goods. In August they began to moult, the grasshoppers were leaving, the grass was dry, and I was without feed except sour milk, and for the last ten days of that month they did not lay an egg. But I had planted some pumpkin and squash seed which were not going to mature fruit and I had begun feeding them and by the first of September they had begun laying again. My hens did not set at all untill too late to raise chickens, so I paid a neighbor for the use of her hens and in that way hatched 76 chicks of which I raised 50, losing the rest by hawks and varmints. I did not have a sick chick all summer. I attribute this to the use of so much sour milk, and keeping them free from lice, which I did by putting a very little blue ointment under each wing, round the vent, and on top of the head.

The food supply was now exhausted. Even the cow was giving less milk and there were more chickens to feed. I either had to sell my chickens or buy feed. I decided to experiment with them awhile longer. I could sell later if I found them balancing on the wrong side of the ledger. Rabbits were very numerous and I set traps for them and seldom a day passed that I did not catch at least one. In that way I provided them with the necessary meat. By scattering millet seed, and kafir round the alfalfa stack which I had bought for my cow and horse, they were compelled to exercise. Also they ate a great many alfalfa leaves. On bad days I had to keep them up, and, then I fed them dry bran and at night kafir heated in the oven and fed to them warm.

Eggs have been nigh the past season and so has feed, but you will observe that I resorted to unusual methods to keep from buying. Had I felt financially able to buy feed and crowded my pullets, I feel confident my returns would have been greater, but I had to make haste slowly.

From the beginning I kept an itemized account of my experiment with the results as follows:

Expenditures—Hens, $6.00; Eggs and sitting hens, $4.33; ointment, wire and boxes, $1.25; feed, $19.15; total, $30.73.

Receipts—Eggs laid (1,541), $32.65; chickens sold and eaten, $13.70; invoice (39 hens), $25.65; total, $72.00.

Deducting the expenditures of $30.73, this left a balance of $41.27.

I weighed every chicken used on the table and credited the hens with them, at the then prevailing price. Only the feed bought was charged against them.

Milk, immature pumpkins and squash, alfalfa leaves from round the stack, rabmits and grasshoppers were not charged against them, as they had no market value, tho they were of material help in my feed problem. A daily record was kept of eggs laid. At the end of each month I credited the hens with the number of eggs laid during the month at the current price that day. Prices ranged from 17 cents in March to 50 cents in December.

I can sell my hens for 65 cents each and the roosters for 75 cents, and have put them on my book at that price, but have decided to try another year, as I hope to have some feed by fall. A portion of my cow and horse shed served as shelter for my chickens, so I saved that expense. I feel encouraged that I may be able to help pay my expenses while seeking health and save what I had previously laid by for the proverbial rainy day, which I thought had arrived for me, but I am so improved that I am glad I undertook to prove up on a claim and raise chickens.

How a Baseball Game Started a Fine Family Garden

Continued from page 5

had they exhibited their products. But thru some misunderstanding about entry, and being so busy with their garden, they failed to do so.

The cultivated plot was about fifty by one hundred feet in size. The turnips were raised on a piece of bottom land about twenty-five by fifteen feet, this piece set apart from the main garden, being without irrigation water.

They failed to keep a record of expenditures, but Mr. Farrell said that the expense for seed and other incidentals would not exceed $6.00 or $7.00.

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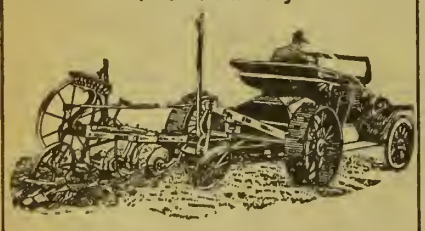

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A New Homestead Ruling

Homesteaders may leave their claims to help out with farm labor on other farms during the war. Senator Shafroth, of Colorado, has called attention to the law which was passed recently, and reads as follows:

An act to authorize absence by homestead settlers and entrymen, and for other purposes.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That during the pendency of the existing war any homestead settler or entryman shall be entitled to a leave of absence from his land for the purpose of performing farm labor, and such absence, while actually engaged in farm labor, shall, upon compliance with the terms of this act, be counted as constructive residence: Provided, That each settler or entryman within fifteen days after leaving his claim for the purpose herein provided shall file notice thereof in the United States Land Office, and at the expiration of the calendar year file in said land office of the district wherein his claim is situated a written statement, under oath and corroborated by two witnesses, giving the date or dates when he left his claim, date or dates of return thereto, and where and for whom he was engaged in farm labor during such period or periods of absence: Providing further, That nothing herein shall excuse any homestead settler or entryman from making improvements or performing the cultivation required by applicable law upon his claim or entry: Provided further, That the provisions of this Act shall apply only to homestead settlers and entrymen who may have filed their application prior to the passage of this Act. The Secretary of the Interior is authorized to provide rules and regulations for carrying this act into effect.

Treatment for Smut

Bunt or stinking smut of wheat is a robber who annually pilfers thousands of dollars. The amount of damge done can not be determined or even estimated. Suffice it to say that losses thru this source are bad enough in an ordinary year. Viewed in the light of war necessity any lack of precautionary measures becomes criminal.

Infection from smut may be caused by the presence of the spores either in the soil or in the seed planted. Elimination of the former source depends largely on suitable crop rotation and neighborhood co-operation.

It is unnecessary to sow seed carrying any appreciable infection. Whenever possible, seed known to be entirely free from smut contamination should be sown. This is the surest and safest way to handle the situation.

If seed of known freedom from smut cannot be secured various precautions should be taken. The first step is to thoroly clean the seed by running thru a fan mill. Two ends are attained in this process. First, a large share of the smut balls and smut spores are eliminated. Second, the weak and damaged berries are discarded. Such berries are more susceptible to the fungicide and will seldom germinate after treatment.

If smut balls are still present in the seed the weast should be poured into a tank of water and stirred. This process allows the smut balls to rise to the surface where they can be skimmed off and destroyed. If the seed is treated with the fungicide in an open tank skimming may be delayed until that time.
it in an open tank where it can be stirred and

The ordinary smut killing solution consists of one pint of commercial formaldehyde mixed with forty-five gallons of water. The wheat should be soaked in this solution for ten minutes. The most convenient method is to soak the smut balls skimmed off. The poison does not kill the spores on the inside of the smut balls. The seed should now be dumped in a pile and covered up for two hours to thoroly distribute the formaldehyde gas. At the end of that period it should be spread out thinly to dry until it can be sown with the drill. All tools used in the handling of the seed must be disinfected with the formaldehyde solution. This includes thoroly disinfecting the sacks and the drill before using them.

More seed must be sown than if it had not been treated. The berries absorb moisture and hence become larger. This necessitates heavier planting. A certain percentage of the berries will also fail to germinate as a result of the formaldehyde treatment. No set rule can be given for the increased quantity to sow.

Clean seed handled with clean tools and planted in clean ground is the only sure prevention of stinking smut.

Loose smut rarely causes as much damage as does the bunt. In this case the smut spores are found on the inside of the wheat berry and a fungicide is useless as a preventive. The only practical remedy is the hot water treatment. As this treatment requires much care and considerably injures the germinating power of the seed, it is not recommended unless the loose smut is known to be present in dangerous amounts.—R. J. Leth, Idaho State Seed Commissioner.

New Zealand has decided to control the purchase and distribution of its new wheat crop. The maximum government price will be $1.41 per bushel. Latest estimates give the total amount of wheat land as 293,000 acres and the estimated yield 30 bushels per acre. New Zealand has lately been importing wheat from Australia.

The United States Food Administration has notified every flour mill of the country that it desires to buy at least 30 per cent of its output. This reserve holding is to simplify the handling of supplies for the Army and Navy and to insure a regular supply of flour at favorable loading points for export to the Allies.

Proved Worthy Beyond Question

THREE distinct tendencies in modern motor car construction were visible in the new models displayed at the recent metropolitan automobile shows.

Briefly, these three tendencies were concerned with more efficient power, lighter car weight, and greater economy of operation.

Every one of these qualities has been a pronounced characteristic of Oakland Sensible Six models during the past three years.

The high-speed overhead-valve engine of the Oakland Sensible Six delivers 44 horsepower at 2600 r.p.m., or one full horsepower to every 48 pounds of car weight.

The high carburetion efficiency of the engine gives from eighteen to twenty-five miles to the gallon of gasoline. The 32 x 4 tires, extra large for the light weight of this car, are giving 8,000 to 12,000 miles per tire.

The finely made chassis is a model of simplicity and strength, and the sightly body is swung on long springs over a generous wheelbase, insuring full comfort.

No pains have been spared to make the car handsome in proportion and finish; it is unusually roomy and accessible, and upholstered throughout in genuine leather.

THE sound and practical construction of the Oakland Sensible Six chassis matches low cost of operation with low cost of maintenance.

Touring Car	*$1050*
Roadster	*1050*
Roadster Coupe	*1210*
Sedan	*1250*
Sedan (Unit Body)	*1550*
Coupe (Unit Body)	*1550*

F. O. B. Pontiac, Mich.

OAKLAND MOTOR CAR CO.
PONTIAC, MICH.

OAKLAND SENSIBLE SIX

Price Fixed for 1918 Wheat

President Wilson has fixed $2.20 a bushel as the basic minimum price for the wheat grown in 1918. This is an increase of 20 cents per bushel over the price originally fixed for the coming crop and is the same as is being paid for the wheat harvested in 1917. The president's action has stopped efforts in Congress to fix a price of $2.50 or $2.75 by statute. During the time that legislation was pending the movement of wheat to market was interrupted and the bread supply of the nation and the Allied governments was endangered. Herbert C. Hoover, United States Food commissioner, has issued a statement regarding price fixing, especially as to wheat, a portion of which is given below. The committee appointed by Mr. Hoover to determine a basis of price to be paid beet growers in the mountain states will have its report in the hands of the Food administration before this issue of We tern Farm Life goes to press and results may be looked for soon:

There appears to be a good deal of misinformation circulated amongst the agricultural community as to the policy and scope of the Food administration with relation to price fixing. I wish to say at once and emphatically, that the Food administration is not a price-fixing body except with regard to certain commodities which are today dominated by wholly abnormal overseas commercial relations, and the surrounding factors with regard to which are such as to project great dangers both against the farming community and at the same time the consuming community. The two commodities under regulation are wheat and sugar. With the further exception of cases in which it has intervened purely as a friendly intermediary between organized producers and consumers—as in city milk—the Executive department of the government has no authority and no desire to fix prices of products of agriculture.

It seems necessary and desirable to re-state the reasons already referred to by the president which render it necessary and possible to undertake control of the marketing of these two commodities. The economic forces arising out of the war, which have necessitated this action, are in the main as follows:

1. All of the overseas shipping in the world has been placed in government control and the volume of this shipping is much reduced. As a consequence there is no longer any free play in commercial overseas traffic, as the governments involved must designate what tonnage is to be assigned to each commodity and each class of traffic.

2. Inasmuch as normal commercial overseas traffic has broken down, it was necessary for the Allied governments in Europe to set up single agencies for the purchase of the whole of their food supplies from abroad. Of American wheat their purchases are of sufficient volume to control the price—and this is the only agricultural commodity where this maintains.

3. In the face of a necessary duty to reduce our consumption of food—so badly needed by the Allies—it has been absolutely necessary to arrive at a division of these two commodities in the common interest of the war, and to control the reduced supplies internally, in order that all may be treated alike—rich and poor—and this implies a control of distribution and price.

As stated, practically the only commodities, as to which these new economic forces dangerously involve the United States are wheat and sugar. All control measures are the lesser of evils. In wheat we were faced with a single agency whose proportionate purchases to the total were such as to dominate the price. Any relationship with this agency by our officials in limiting their operations thus becomes absolutely price-fixing, and it becomes at once a question as to whether it should be done openly and frankly with our producing community, or done secretly, at the will of government officials. Furthermore, in the ordinary course of our wheat marketing, the wheat goes to the markets during the first four months of the harvest year and during this period, were no control established with the Allies and neutrals, it would be entirely possible for them to export from the United States such a portion of our wheat supplies as to leave our population short of bread. It has therefore been necessary in the interest of the American consumer, that the government should intervene to protect his supplies. Again, in the face of this abnormal situation, the normal wheat marketing machinery of the country was completely paralyzed. To have attempted the normal course of marketing through the Boards of Trade and Exchanges, by which the buyers of wheat protect their operations by sales of futures, involved a dangerous series of speculations, nor did the Exchanges themselves wish to be the centers around which such speculations should take place. Every action of the Allied buyer, every rumor of peace and thereby the liberation of the large wheat supplies in Australia, every monthly shipment of wheat abroad in the depletion of national supplies, would have been the center of speculation and the causee of violent fluctuations in the Exchanges, of the same character that occurred during the last five months of the 1916 harvest year, when, altho the farmer had marketed his wheat at an average of $1.44 a bushel, the price, due to these very causes, at one time rose to over $3.00 a bushel, and flour to over $17.00 a barrel.

In these circumstances an independent commission was appointed by the president, upon which the farming community was represented by six members out of eleven, and this commission unanimously agreed upon the price of $2.00 for No. 1, Northern wheat, based on Chicago, as a market center, and in coming to its conclusions this committee considered the necessity to give to the farmer a price not only covering his cost and normal profit but a price that would stimulate and assure future production. That their judgment has proved correct is evidenced by the fact that 42,000,000 acres of winter wheat have been seeded, being an increase of about 2,000,000 acres over any acreage hitherto known in our history and some 7,000,000 acres over the pre-war average.

Having established the basic price of this commodity, the Food administration has followed it thru the manufacturing and distributing trades with limitations as to the profits to be earned in distribution and has thereby brot this prime commodity to the door of the consumer at the least possible expense and at a margin between producer and consumer less than normal. The same situation confronts the American farmer and the American consumer in wheat for the next harvest year.

Method of Testing Seed Corn

The following simple method of testing seed corn comes from the department of farm crops of the Missouri College of Agriculture:

Usually several shallow wooden trays are made and nearly filled with sawdust or fine soil. They may be of any size desired, but a tray about 2 feet square is perhaps the most convenient one to handle. A cotton cloth the size of the tray is marked off in 2-inch squares, each square numbered, and laid on top of the soil. The ears to be tested are laid out in sets of 10, each ear being given the same number as one of the squares on the cloth. Taking a set of ears, remove 6 kernels from an ear and place them on the square in the cloth, which bears the ear number. Do this for all ears. When all the squares on the cloth are filled, the kernels are covered with a second cloth, a third cloth is placed over this, an inch of sawdust or soil is spread on top and thoroughly wet with warm water. In place of the layer of soil, a pad filled with sawdust may be used to cover the tester. This is somewhat cleaner and more convenient than loose soil or sawdust. When all the trays are filled, stack them in a warm place and wet the top layer of soil in each tray with warm water once a day for 5 or 6 days. At the end of this time remove the top cloth and examine the kernels. If the kernels from any ear do not show strong germination, that ear should not be used for seed. By the use of the germination test all ears unfit for seed may be found and thrown out. The result will be a better stand a thriftier growth of the young crop.

The squirrel does not know how to can, but he stores his food for the lean season. Learn a lesson from the squirrel.

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In these war days you must realize that it becomes a *patriotic duty* to own a motor car.

The business of the nation must move forward on high gear. There must be no "let ups"—no wasted effort—no inefficiency. Every true American is expected to quicken his stride and make each minute a *productive* minute.

On the farm, especially—where distances are great—a dependable motor car is quite as necessary as the telephone. It is the most efficient form of transportation that has ever been developed—and transportation is the key to our entire national problem.

So, by all means, get a motor car—for yourself and Uncle Sam. *Any* car is better than a slow, plodding, horse-drawn vehicle, but common sense will dictate the wisdom of buying a good one while you are about it.

Take up the matter in the same careful way that you select agricultural machinery. Look for enduring *quality* rather than mere price. Buy a manufacturer's reputation rather than four wheels and a painted body.

If you make your selection on this basis, we are quite content to abide by the result. If you search for motor car quality you *must* find the Paige.

PAIGE DETROIT MOTOR CAR COMPANY, 234 McKINSTRY AVENUE, DETROIT

Long Distance Dairying

T. S. Parsons

Wyoming, with its 95,000 square miles and 147,000 inhabitants, with its vast open stretches, with its counties that are larger than some eastern states, with its one railroad east and west and its one railroad north and south, and with many rich farming regions remote from transportation except by automobile, is overcoming its agricultural handicaps by long-distance dairying.

An interesting example of successful dairying is found in Fremont county on the farm of C. S. Jones. This farm is located in a thinly settled section in the Wind River valley, 55 miles from the nearest railroad station, and is and is surrounded by sheep and cattle ranges. The cows run on native pasture during the summer and are fed principally on native hay and silage in the winter.

Mr. Jones makes butter the year round and during the summer months adds ice cream making to his other activities. His combined dairy barn and creamery is built of logs and is a model of convenience and neatness. The barn has cement floors and is fitted up with modern stanchions, and the small creamery or dairy room has the latest improved machinery.

The stage road from Lander to Dubois passes the farm and Mr. Jones utilizes the stage for marketing his production in both directions. Dubois, an important lumber camp, is at one end of the road and furnishes a good market for most of Mr. Jones' butter. Fort Washakie, about equally distant in the other direction, is the headquarters of the Shoshone and Arapahoe Indian reservation and furnishes a market for ice cream and butter. Mr. Jones puts up a supply of ice during the winter, so he is able to ship the butter and ice cream safely even in the hottest weather. He uses refrigerator boxes and a shipment is made in either direction on alternate days. Mr. Jones does a paying business, altho none of his products reach the railroad. The plant is small, as it is only a one-man proposition, but it demonstrates what can be done in the dairy business at a point remote from railroad. Many farmers, however, have not the market facilities that Mr. Jones has. For them the small co-operative creamery or cheese factory is the solution of the problem.

Wyoming has long been noted as a grazing state. Free land with abundant grass, has made sheep and cattle raising profitable as these industries are the least injured by poor transportation facilities. Dairying and the more intensive forms of agriculture have been neglected, but with the influx of new settlers the last five years the range has become greatly restricted and more intensive systems of farming have been introduced. While the state still holds an important place in cattle and sheep production, it is becoming more and more important in other lines of agriculture.

Creameries and cheese factories have been established in the most remote sections of the state and have been successful wherever they were properly managed. The alfalfa and the nutritious native grasses of Wyoming are unsurpassed as milk producers, and the high altitude climate makes it possible to manufacture butter and cheese of the highest quality. Wyoming cheese made in some of these factories is hauled over mountain ranges and shipped to Chicago on the east and to Salt Lake City, Spokane, Walla Walla and Pocatello on the west, where it is sold in competition with the celebrated Wisconsin cream cheese at the highest market price. Most of the Wyoming butter is shipped to the New York market where it sells equally well.

Two cheese factories in western Wyoming ship on an average of a million and a quarter pounds a year and all of the product is hauled 50 and 75 miles to the railroad shipping point. These factories have changed the Star valley, as the section is called, from an ordinary farming community to one of the richest dairy sections in the country.

Care of Sow at Farrowing

The sow should not be allowed to put on an excess of fat before farrowing time. Lack of condition, however, should be avoided, points out Ray Gatewood, instructor in animal husbandry in the Kansas State Agricultural college. A fat sow is likely to be clumsy with her pigs, which are sometimes few in number and lacking in vitality. A very thin sow, on the other hand, will not do her pigs justice and may become a mere wreck herself.

A good ration for a sow just previous to farrowing is equal parts of corn, ground oats, and wheat middlings. Corn must be fed with judgment and in most cases should not make up more than one-third of the ration as it is a fattening and heating feed. In cold weather, if the sow takes considerable outdoor exercise more corn may be fed with safety. Where oats are not available, middlings or bran may be substituted.

It is possible to use a large range of feeds when the feeder realizes the importance of furnishing considerable bulk and of restricting the proportion of heating or highly fattening feeds. Roots or alfalfa or clover hay may be fed along with meal. Skim-milk is an excellent feed when available.

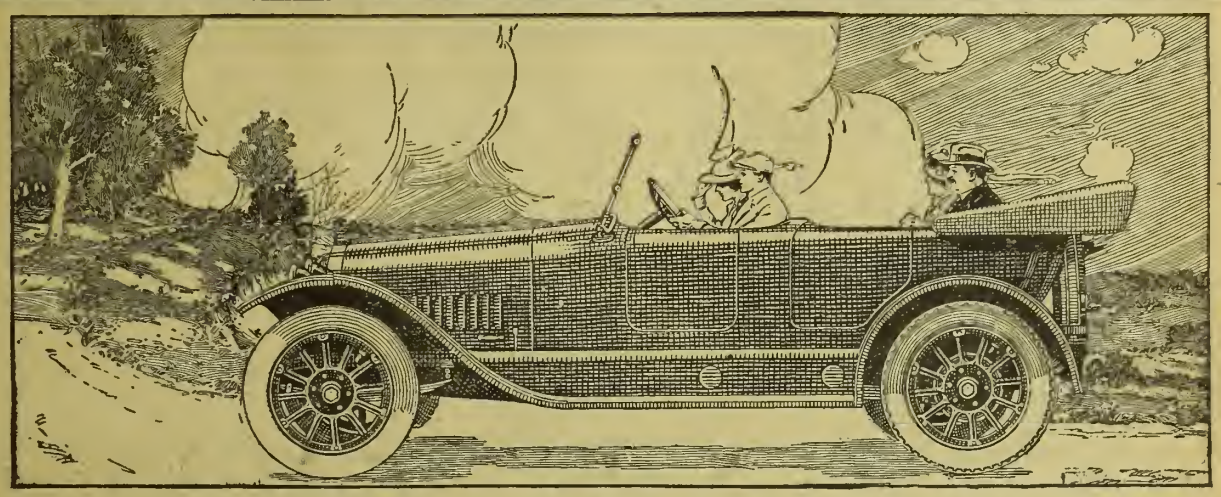
Constipation should be guarded against at farrowing time. It is not advisable to make radical changes in the ration of the sow then, but the feed may be made somewhat more sloppy and a small amount of oil meal added. Constipation often causes the sow to lose her pigs and perhaps her own life.

The farrowing pen should be dry, well ventilated and free from drafts. It is well to provide a guard rail to act as a refuge for the young pigs and lessen the danger of their becoming killed or injured. The amount of bedding used will depend largely upon the sow. Active sows in comparatively light condition may be trusted with more bedding than heavier, more clumsy animals.

The sow should not be disturbed after farrowing. At first she should have but little more than a drink. A thin slop of middlings and water answers the purpose. Warm water is preferred in cold weather. Great care must be exercised not to overfeed during the first three days. The ration should then be gradually increased until at the end of a week or 10 days full feed is reached.

Regulation of Seed Prices

Numerous inquiries are being received concerning the fixing of prices on clover seed and seed corn, and on beans, peas, and other seed crops, commonly used as food crops. Thus far the only commodity in the same category with the aforementioned ones upon which a price has been fixed is wheat. In the case of wheat, licensed elevators or warehousemen who have obtained a modification of their license permitting them to store wheat and rye, suitable for seed and to be used for bona fide seeding purposes only, for a longer period than thirty days, are forbidden to sell seed wheat at a greater advance than fifteen per cent in excess of the price at time of purchase for Number 1 wheat, based upon the price being paid at the nearest terminal by the Food Administration Grain corporation. The restrictions in the matter of handling seed wheat that apply to the licensed elevators and warehousemen do not apply to seedsmen, for it is recognized that seedsmen from the very nature of their business in being compelled to pay premiums for choice lots of wheat, in shrinkage resulting from recleaning and in parceling out their stocks in smaller quantities cannot work on so small a margin of profit as elevators can. In other words, seedsmen are not limited to the fifteen per cent margin of profit in handling seed wheat, but it will facilitate matters if at the time of purchase of seed wheat from elevators, seedsmen will make it clear that the wheat is to be used for seeding purposes only. No special form is required to be filled out by seedsmen at the time of purchase or sale of seed wheat. The Food Administration has announced its intention to act in the matter of regulating prices or in restricting seedsmen as to profits or practices only upon the recommendation of the Department of Agriculture.—U. S. Seed Reporter.



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The Mitchell — to meet the ideas of the times — is building a wonderful Light Six. It has a 120-inch wheelbase, a 40-horsepower motor. It has all the over-strength, all the beauty, and nearly all the extra features of the $1525 Mitchell. It has shock-absorbing springs, reversible headlights, a power tire pump, a dashboard engine primer.

Yet it undersells any other car of like size and power and class.

The Secret Is This

This matchless Light Six is our latest example of Mitchell factory efficiency. It is built in enormous quantities. It is built complete — chassis and body — in a model efficiency factory. In a plant built and equipped under famous experts to produce this one type economically.

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Machine Power To Solve Food Problem

Farmers are facing another crop season that will make unusual demands upon them. They expect to continue supplying the insistent calls for food from this country and abroad and they know that this must be done in spite of a shortage of man power and in the face of higher costs of every operation that goes into production. In the previous issue the editor directed attention to the necessity for an even greater effort than last season in providing food and feed crops. On the cover page of the present issue will be found the words of the President of the United States, who addresses himself directly to the farmers on this problem.

It is quite evident that, with some 800,000 men already withdrawn from farm labor thru war activities in this country, something is necessary to make up for this shortage, if there is to be any success at all to the program of increased food production. There is only one answer—farm machinery and tractors. Mechanical power must supply the lack of man power.

The manufacturers of tractors, farm machinery and implements are prepared to meet this extra demand, but they do urge that farmers who expect to buy, place orders immediately. The manufacturers, like everybody else, are handicapped by the war. It is difficult to keep steel in the channels of manufacturing for anything except munitions and ships and the makers of tractors are limited in raw material to about what they have orders for. If they are to keep up with the demand, therefore, it is essential that the prospective buyer make up his mind quickly and order early everything he may need, whether it be tractors, plows, mowers, binders, cultivators, drills, bean harvesters and threshers, grain separators, rakes, manure spreaders, silo equipment, as well as silos, cream separators, dairy barn supplies, or whatever it may be that he should have to make his farming operations more effective. There never was a greater need for labor saving machinery, nor is there any way in which the farmer can better meet the expectations of the government than by equipping himself to handle his business efficiently and economically.

If the farm has been drained of its male labor, the women will find tractor operation by no means difficult. Thousands of women in the country as well as in the cities handle their own motor cars, and these women can learn quickly to operate the farm tractor. A woman, just the same as a man, can accomplish a great deal more on a farm equipped with machine power than on one that relies on horses. If the machines did nothing else the cut in man and horse hours due to their installation would soon pay for them.

There is one more point that should not be overlooked: Do not delay another day in going over the implements and machinery that you have, to see that everything is in good repair. If you can make the old do with proper repairs it means so much saved for yourself and it releases material for some other farmer who is not so well equipped. The manufacturers are pressed with orders, pressed for time and pressed with shortage of raw material. It is not a question of loading them up with additional orders, but the point is solely that of providing the greatest quantity of food products under the most economical and efficient system of farming. It is the call of the nation that prompts these remarks. Think it over and do the best you can for Uncle Sam. You, on the farm, are fighting to rid the world of German autocracy just as much as are the men in the trenches. They risk and willingly give their lives; you are asked only to hazard property. You have little, if anything to lose; they may lose all that a man can lose. They must win your fight and mine, but it cannot be done without your ungrudging help and mine. Choose the way in which it can be done the best and quickest.

W. S. EDMISTON,
General Manager.

The Branding Iron

Applied by Elias M. Ammons

There is nothing to high prices unless your price is the highest.

✦ ✦ ✦

An increase of 22.7 per cent in total value of all livestock produced in the United States in 1917 over the previous year shows that the animal husbandman has been on the job.

✦ ✦ ✦

One of the reasons for not establishing a purchasing base at Denver is the statement that there is not sufficient storage capacity. Why not Hooverize the pool rooms? They would furnish room for a lot of food-stuffs, and there are enough men loafing about them now to grow plenty of provisions to fill them.

✦ ✦ ✦

Reports from the entire Rocky Mountain district indicate that livestock of all kinds is wintering much better than a year ago. Not only is there less loss among the herds and flocks, but animals of all kinds are in better condition, while the prospect for the calf and lamb crops was never better.

✦ ✦ ✦

The people of the state do not seem to realize the importance of protecting the beavers. These industrious little animals, if permitted to do so, will do more than most of the conservation schemes to preserve and improve the water supply, especially toward the heads of the streams. In supplying the water storage for trout they are invaluable. It is true they become a nuisance to farmers at times, but that should not furnish an excuse for destroying them to get their valuable fur.

✦ ✦ ✦

To help win the war—what a lot of conservation of energy could be practiced in Denver! Just think how our team work is knocked into smithereens by newspaper scraps, to say nothing of waste of paper and printers ink and effort on the part of those really bright and patriotic on most questions. The full strength of all our resources must be employed to accomplish creditable results, and the capital city should quit its squabbling and get into the collar for united leadership. Even if it refuses to give up its favorite habit entirely it might swear off until the war is over.

✦ ✦ ✦

The factories and farms of Sugarland, Texas, have a payroll of 1,100 persons; did a business last year of $17,000,000 and support a population of 3,500 people. Manager Eldredge is just completing a system of school houses, built on the unit plan, in the form of an arch, with a community hall as a keystone. Each building is to have its own playground. The course of study is to be very practical and lead directly to the State University or Agricultural College. Ample lands adjoining the schools are used for elementary training in agriculture, while the great farms and herds of livestock and factories furnish the demonstration and trade schools for effective training. Educators will watch Mr. Eldredge's hobby with a great deal of interest.

✦ ✦ ✦

The federal government is preparing to utilize all the agricultural colleges and other technical schools for the preliminary training of recruits in the national army before they are sent to the cantonments. Under this plan the hundreds of millions of dollars of equipment of these institutions can be used at once. The great demand for technically trained men in the army has made it necessary to provide special training and it has been found impossible to secure sufficient equipment for the military stations themselves. It is expected, therefore, to employ the educational institutions which are fully equipped with teachers and appliances for this work. The entire summer vacation, with perhaps two or three months added, will probably be employed in this line of endeavor the present year.

The best practical way to protect bread from mould is to keep it in a dry, air-tight box.

Pintos Versus Navies

Michigan bean growers are somewhat exercised over the efforts of the United States Food administration to help market the western pinto bean crop. Their complaint is voiced in Michigan Business Farming in the following language:

> Somebody seems aimighty anxious to give the eastern navy bean a black eye and curry favor for the western variety. Of course, we have our suspicions, and we imagine that there are others in Michigan who have similar suspicions. We can't believe that the bean jobbers of this state are going to sit supinely by while the bean division at Washington uses the government's franking privilege to extol the merits of the pinto over the Michigan variety. It does not add to the popularity or the demand for the Michigan bean when the government publicly proclaims it a luxury, and urges people to buy pintos in preference and at a much lower price. 'Tis a matter that the dealers and the growers of Michigan should have something to say about, and unless we miss our guess they'll be asking the bean division for an explanation.

Curiously enough in the same issue of the paper, but in another column, will be found the answer to this complaint and we quote it here:

> Last fall the government attempted to set a price on Michigan beans. Because we knew that the farmers of Michigan would lose money if forced to sell at the government price, and believing that the government was not fully acquainted with the Michigan situation, again we knocked. Protest after protest was sent to Washington, with the final result that the government turned elsewhere for its bean supplies and left the Michigan product free to follow the open market.

The Michigan product was left free to "follow the open market" with the result that navy beans went skyrocketing, retail figures being all the way from 18 to 25 cents a pound. The Michigan grower did not get the benefit of these prices, altho he did get 4 to 5 cents a pound more than the western grower got for his pintos. This difference was far more than the market value justified.

As a matter of fact, the Michigan bean grower will lose nothing by the action of the Food administration in absorbing the pinto bean crop. There is a ready demand for every white bean that Michigan has produced and the grower will get just as much for his crop. What is happening in the eastern consuming centers as a result of the pinto purchase is to force the retail price of navies back to a reasonable figure, and at the same time acquaint the consuming public with a western bean of superior food value, against which there has been discrimination solely because of its color. There are not beans enough to supply the demand, either at home or abroad. There has been no over production of this valuable food; it was simply a matter of poor distribution and unfair marketing practices that the Food administration had to adjust.

Michigan Business Farming seemingly ignores an important fact; namely, that the Food administration was created as well for the benefit of the consumer as or the producer.. Both sides must receive consideration. The wise producer wants his product put into the hands of the consumer at a reasonable and not an abnormal figure, because only in this way can he maintain his market. The Michigan bean men overreached themselves, and we do not think the fault has been with the growers so much as with the dealers in that territory, who could see nothing but white when the market said beans. They have learned that there is a spotted bean—thanks to Mr. Hoover.

✦ ✦ ✦

The Suit Case Teacher

The writer recently attended a Grange meeting in Jefferson county where County Agriculturist, Floyd C. Tripp, expressed himself regarding the rural school problem. His reference to the "suit case teacher" was appreciated, because this type of instructor is all too common in our rural districts. She is a high school graduate from the city and on Friday night, to quote Mr. Tripp, "she grabs her suit case and makes a run for the interurban to take her back to Denver."

Jefferson county is not alone in having this type of rural teacher. In many counties, however, she cannot catch the trolley car on Friday night, because there isn't any trolley and the distance by steam rail is too great to permit week end trips.

There was no time to discuss the problem at the Jefferson county meeting, but it is a live issue and it will come up again and again until there is a change in conditions that will give us true rural leadership in our country schools. Mr. Tripp did not attempt to place the blame for the condition. He did not mean to convey the impression that it is the "suit case teacher's" fault. She is doing just as well as could be expected under the conditions and the salary that she gets. The fault goes back of the school district board and right into the rural home. Mrs. French laid her finger on the sore spot in her talk at the same meeting, when she spoke of lack of interest of parents in the school life of their children.

What else can you expect when the men are charged with the management of our school districts? We have many women county superintendents, but they have to deal with the school trustees and these boards are largely composed of men. It is a man who is writing this editorial and he should know when he says that a man's viewpoint in conducting a school is too often that of finances and not of the moral and spiritual welfare of the children. We shall never get rid of the suit case teacher until the mothers have control of the rural schools, and even then success can come only by broadening our ideas which now are hedged by school district and taxation boundaries, and looking at our rural schools as a county, state and national problem. There is no subject that comes before the Grange with greater right to be considered there than this subject of rural schools. Let us not lull ourselves into false slumber and say that if we can get rid of the suit case teacher and hire one at a higher salary with more experience and a diploma in pedagogy we shall have solved the problem. That isn't half of it.

Comment by Farmer Putnam

OUR MISSOURI FRIEND WRITES A LETTER FROM AND ABOUT MONTROSE COUNTRY

Montrose, Colo., March 10, 1918.

HERE I am way over in the Montrose country, visiting around with farmers and gitting pointers about crops and climate. What brot me over here was a telegram readin' as follers: "Come on over, Put, we have buried the hatchet."

That there telegram made me feel safe, otherwise I couldn't have went, because I was afraid of them people. I had been a-readin' so much about their fightin' with the Reclamation service that I thot them farmers on the Noncompogger project was Utes on the warpath. When I got over here I found 'em the most peacable lot of pure whites I ever run acrost in all my travels. I found out that even fellers like Al Neale wasn't dangerous onless you ruffled 'em the wrong way. I sez to one of them farmers, askin' him how it was that they could fight so hard about the water question and still be as ca'm as the Pacific when the wind was still. I thot him and all them other leadin' farmers on the project was walkin' around with guns on their hips, and every time Mr. Pyle or some of them other government engineers come out of the tunnel, where they was in hidin', they would take a shot at 'em. He just laffed and said:

"Put, you old fossil, don't you know we just been quarrelin' with the government and not with them men?"

He explained to me how it was about the red tape-worm with which the government is afflicted. It kind-a puts 'em to sleep and unless the people dealin' with 'em hollers loud enuff they don't wake up. By gosh, I sez, you fellers certainly kin holler; we kin hear you on the eastern slope when you go after the Reclamation service.

"Yes," he sez, "and they kin hear us clear down to Washington now and what's more, they're meetin' us half way and it's no joke when I tell you Put that the hatchet has been buried. We've all decided to settle down now to irrigatin' our crops and tendin' to the business of farmin', because Uncle Sam needs our help and we need his help and that's the only way to git along in this war."

Before I say more about them people over here I want to tell you-all about what happened in Salidy where I stopped to take breath, etc., before startin' the long climb up over Marshall's pass. I was walkin up the main street of the town, which is owned by the D. & R. G. Ry., when who should I meet up with but Jack O'Connell, editor of the Mail. Jack was glad to see me and he showed me the sights of the town, includin' the picter show. He told me it was a agricultural picter—something about Mary's Garden in Toas (N. M.). I never thot Jack would fool me and I got kind-a sore at first when I seen Mary's Garden. It wasn't very well cultivated; had too many bare spots.

I told Jack that Josephine would kick if she knowed I would go to such a heathenish picter show, with all them forrin idols in it an' Jack sez: "Never mind them idols Put; just keep your eyes on them worshippers?"

Well I reckon the people in them old days was awful wicked, but their wimmin was a heap more attractive than the common run in these days. Such cuttin's up tho, I never seen. The lady that took the leadin' part—and I reckon she was a lady—had a awful time keepin' the mob away from her flivver. I reckon it was her own fault; she was that forgetful she never put on more'n half enough—oh, I should say a fourth enough clothes, even fur a tropickel climate. There couldn't a-been no musketers there or she couldn't a stood it goin' about in them thin things.

Them flivvers they drove in them old days wasn't nuthin' like our modern Fords. They had bad roads I reckon, fur the clearance was very high, and instead of wheels they had darkies to carry the car body on long poles. They didn't have no tire troubles in them days and if engine trouble come up, or one cylinder give out, why they hired another one in his place. I asked Jack what make them machines was and he said it was some French make called the Palanquin.

Well, with all its wickedness, it was a fine picter and it proved a great lesson to me, showin' how humanity has progressed. In them old days the people didn't think nuthin' about paradin' their wickedness in front of everybody; nowadays it's hid. The world sure has growed better—and wiser.

I reckon I better tell you about the trip over after leavin' Salidy. We took our time goin' up, so's all the passengers could git a good look at the scenery and when we got to the top I ast the conductor where was Marshall's ranch and he said it was right outside of the snowshed. I ast him if the grass was good and Marshall had lots of cattle, and he said he didn't know about cattle, but some feller tied a goat outside the snowshed one summer and it bloated and died from eatin' snow balls.

When we got goin' down the west side of the pass the engineer threw her wide open and showed us that the Narrer Gage could run if she got a chanct. We was down to the bottom before we knowed it.

I rode in the parlor car, Camp Bird, managed by a colored gentleman. He must-a thot I was somebody big, because he brushed my clothes—they got all dusty from the snow—and carried my grip fur me when we got to Montrose, and then held out his hand pa'm up kind-a friendly like. I'm a Missourian and prejudiced ag'in the colored race, but he was so friendly that I took his hand and give it a hearty shake. He seemed kind-a grieved when I done so, because I reckon he thot he'd overstepped the bounds. But I didn't mind. Since I left Missouri I've met lots of good people among the colored race and some specially polite ones on the cars.

What a nice time I've been havin' over here! First I seen all the points

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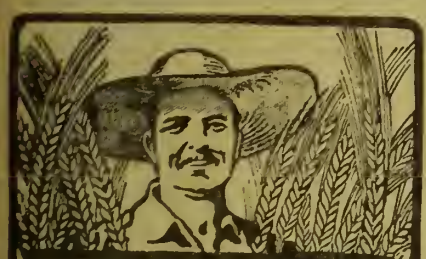

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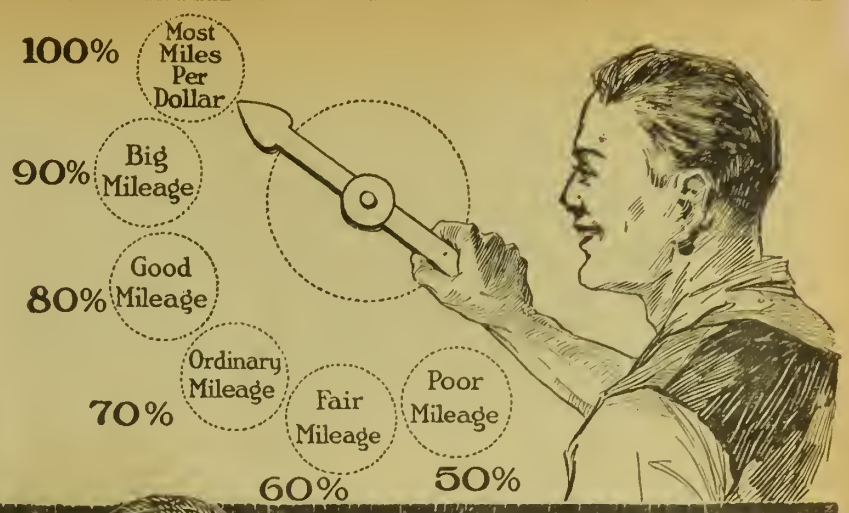

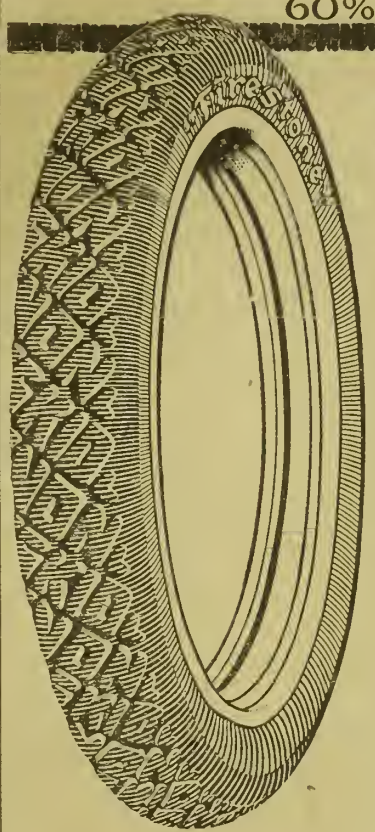

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Every Available Tillable Acre Must Contribute; Every Available Farmer and Farm Hand Must Assist

Western Canada has an enormous acreage to be seeded but man power is short, and an appeal to the United States allies is for more men for seeding operations.

Canada's Wheat Production Last Year Was 225,000,000 Bushels; the demand from Canada alone, for 1918, is 400,000,000 Bushels

To secure this she must have assistance. She has the land, but needs the men. The Government of the United States wants every man who can effectively help to do farm work this year. It wants the land in the United States developed first, of course; but it also wants to help Canada. Whenever we find a man we can spare to Canada's fields after ours are supplied, we want to direct him there. Apply to our Employment Service, and we will tell where you can best serve the combined interests.

Western Canada's Help Will Be Required Not Later Than April 5th. Wages to Competent Help, $50 a Month and Up, Board and Lodging.

Those who respond to this appeal will get a warm welcome, good wages, good board, and find comfortable homes. They will get a rate of one cent a mile from Canadian boundary points to destination and return.

For particulars as to routes and places where employment may be had, apply to

U. S. Employment Service, Department of Labor

Dry Land Alfalfa in Rows on Farm of J. A. Tracy, Morgan County, Colorado

Alfalfa in Rows on Dry Land

SUCCESS DEPENDS ON METHODS OF CULTURE

J. A. TRACY

THE field shown in accompanying illustration is alfalfa sown in rows 42 inches apart. The field is 25 acres, fenced hog tight, sown on July 2, 1914, and the picture was taken ten months later, May, 1915.

The ideal distance of rows is 36 inches. That allows the middles to be cultivated better with ordinary corn cultivator. It should be cultivated very early in the spring by throwing dirt over the rows as much as possible, then harrowing crosswise after a few days, to kill all weeds. One can't hurt the alfalfa that way.

When the rows are as close as 20 inches irrigation is necessary, as there is too much on the ground. It should never be sown less than 36 inches in rows, and wider is not good because of inability to cultivate it right.

Alfalfa originally came from the plains of northern Asia, as well as from other dry sections, where the precipitation may be as low as 8 inches per year. It thrives because its roots penetrate deeply into the ground, being known to go down 40 to 60 feet for moisture. When it is thick on the ground the plants remain small and do not root so deeply. There is no place in eastern Colorado nor in the western part either perhaps, that an isolated plant of alfalfa will not grow.

Planted one in a place, after a few years the crown will be as big as your hat and the roots will penetrate deeply into the earth. One has only to look along the roadside where there never was and never will be either irrigation or cultivation, to verify this statement. By planting it in rows one can isolate it in one direction by making the rows some distance, say three feet apart, and in that manner it can be tended with a corn cultivator.

Every year one sees the great labor that is bestowed upon a field of beets to thin them out in order that each individual beet may have room and moisture. Success could be attained in no other way. A small part of this labor bestowed in a field of dry land alfalfa just one year in starting it will suffice for all the years to come, for with care it will live a life time, and one thinning would be enough for many years.

The first two or three years, if planted thin, you would not get much hay, but the root system would be making ready, and even if the plants stood a foot apart in the row, the crowns would soon fill the row and reduce the width between the rows, so that altho you seemed to have a solid row of alfalfa, each individual root would be a foot apart.

Growing that way the branches would more than reach each other, and at full bloom one could hardly tell that it was in rows when standing endwise to the rows across a public roadway. The yield of hay would be two to three tons per acre, and the yield of seed 5 to 7 bushels. Owners of what is called dry land may have 40 to 80 acre of this plant and may eat, drink and be merry in dry seasons better than in wet, for it is those years when phenomenal yields of seed are had.

No alfalfa is of value unless it is used to the climate in which it grows. The famous Grimm actually died out for many years in getting it started in Minnesota after being imported to this country, so it is not because it was imported that it finally succeeded in Minnesota, but because, year after year, the strongest was saved for further use in that climate till now a strain is had that does well.

Alfalfa should be sown with a corn planter, with a shoe of two by eight so made as to allow it to be sown one inch deep. A blank plate may be used with 16 one-eighth inch holes for sowing 2 to 3 pounds per acre, or with 32 such holes for sowing 4 to 6 pounds per acre. Thin sowing is the best for permanent stand, thinned as suggested, but the yield is not as great for the first few years.—J. A. Tracy, Fort Morgan, Colo.

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As appearance is a valuable asset, it is important to select clothes of known quality and style, and we can offer every assurance that men will find in the Denver's well-chosen lines finely finished, well-tailored garments offering very broad selection from the highest type of clothing excellence produced by America's most famous commercial tailors.

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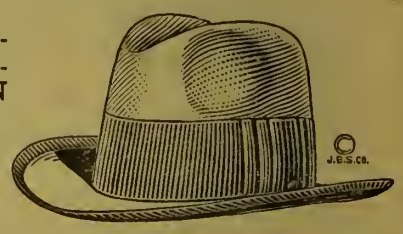

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Where in Western Canada you can buy at from $15. to $30. per acre good farm land that will raise 20 to 45 bushels to the acre of $2. wheat—it's easy to figure the profits. Many Western Canadian farmers (scores of them from the U. S.) have paid for their land from a single crop. Such an opportunity for 100% profit on labor and investment is worth investigation.

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or secure some of the low priced lands in Manitoba, Saskatchewan or Alberta. Think what you can make with wheat at $2. a bushel and land so easy to get. Wonderful yields also of Oats, Barley and Flax. Mixed Farming and cattle raising. The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature and particulars as to reduced railway rates to Supt. Immigration, Ottawa, Canada, or to

J. L. PORTE
Dunn Block Great Falls, Mont.
Canadian Government Agent.

Growing Pinto Beans

The pinto bean is a new crop in eastern Colorado. How to plant, and quantity per acre, is still an undecided question. This has been our successful method for the last three years: Plant 15 pounds per acre on plowed ground, furrowed out with cultivator shovels, or double disk and double listed, covering 4 inches deep. Cultivation: First harrow and then deep cultivation. Then drag two or three times with mower wheels attached to each gang of the cultivator, with shovels removed. Mower wheels should be dragged lying down, taking two middles at a time. Then hunt out the stray weeds with the hoe and harvest at least 500 pounds per acre.—L. O. G., Deer Trail, Colo.

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Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

A Shoulder Abscess

Please advise me in reference to a swollen shoulder on a 4-year-old horse. About three weeks ago I worked him in a heavy load, covering 10 miles. I used a cloth collar open at the bottom and I think the hame was too long. The next morning I noticed a large, hard lump low down on his shoulder and extending half way under to the place where the hames are buckled. This bunch is large and hard and greatly deforms the colt, and it does not get any smaller and has no soft spot like a manger boil. It does not appear sore and does not lame him.—J. O. McV., Adams county.

This is probably a levator-humeral abscess caused from a deep-seated bruise. There is probably a suppurating area in the center, and which if not relieved will finally form a cheesy mass which will serve as a constant irritant and the swelling on the shoulder will continue for months. Again, it may be a fibrous tumor, caused by the fungus botryomycosis, in which case treatment will be more difficult. Under the circumstances an exploratory incision should probably be made, with a view of relieving the pus which is probably accumulated near the center of the tumor. It will be well to take the horse to a veterinarian for examination. If the usefulness of the horse is to be preserved, something must be done immediately.—Dr. Geo. H. Glover, Veterinary Department, Colorado Agricultural College.

County Road Question

How many county roads can a county hold on a homestead? Can they hold five on me? Don't roads have to run as near north and south, east and west as possible, and on section lines as near as possible? Can the county commissioners sue me for fencing in my plow land when I agree to plow, grade and make a new road to come out in conjunction with other county road, thus keeping it on as near as possible an east and west line, but out of the plow land?—A. S., Custer County, Colo.

If the county commissioners have not observed the law relative to the opening or vacating of county roads your sole remedy is in compelling them to follow the law. The law governing the matter is found in Colorado Revised Statutes 1908, sections 5833 and following. Among the provisions is one which does not permit the commissioners to open a road thru a growing crop or expose the growing crop to depredation until the owner shall have had an opportunity of harvesting the same. The commissioners, if they have proceeded properly, with the viewers have the matter of establishing and laying out the roads in their own hands. Your remedy is to compel an adherence to the method laid down in the statutes.—Hamlet J. Barry, attorney, 724 Equitable building, Denver.

Corn Safer Than Barley

I have some land that has not been in crop for probably ten years. There is practically no buffalo grass in the field, it having been killed out when plowed years ago. We plowed up some of this same kind of land last year and after disking and harrowing, it worked down almost like old ground. I want to plow up something like 100 acres of this same kind of ground early this spring and put in barley. I have been told it will not do well in barley. Will you please let me know about it? Also what kind of corn would you advise planting, and where can I get some of the seed you recommend? My ranch is north of Burlington.—E. C. H., Kit Carson county.

It is taking chances to plant barley on spring plowing. If you want a grain crop the safest is corn. Plow the ground early and the more you can work up the field with disk and harrow before planting time, the better corn you will have. As to varieties, there is a very good type of yellow dent and also white dent corn grown by the farmers in your neighborhood to which no particular name is attached. This seed would probably do better than any you could buy in town, if you obtain it from the man who raised it and its germinating qualities are good. Farmer's Reliance, yellow dent, Minnesota No. 13, Iowa Silver Mine, and Pride of the North are all good in your neighborhood. The only absolute test of the best corn for any soil or locality is to try it out. The seed of some or all of these varieties may be obtained at any Denver seed stores, but seed corn is scarce this year and should be purchased early and tested for germination before buying.—E. R. Parsons.

Legumes for Arkansas Valley

J. R. G., Otero county:

In answer to your question as to which crop does best in your section, field peas or soy beans: Canadian field peas are not adapted to your conditions. They need a cool growing season and do better in the high mountain valleys of the state. Soy beans are not extensively grown in Colorado, but they will make a crop in the Arkansas valley from Pueblo eastward. Soy beans will withstand drouth to a considerable extent, but they need a long growing season, so if you try them you can expect success only by planting the very earliest maturing varieties. If you can get seed produced in Colorado you can count on making a crop. There is a variety of cowpeas that has been successfully grown in northeast New Mexico under dry farming conditions, that seem to withstand drouth even better than soy beans. Mr. Herbert G. Smith, superintendent U. S. Experiment Farm, Tucumcari, N. M., has been growing these cowpeas successfully for a number of seasons at 4,000 feet and can tell you about them. Another leguminous crop that may be worth experimenting with for its feeding and soil-building value in your locality is Spanish peanuts. This crop is drouth-resistant and quick-maturing, making a good feed and storing nitrogen in the soil, as is the case with soy beans and similar crops. The leguminous plants that have met Colorado conditions best are alfalfa and sweet clover.

Bologna Ham Recipe

To make bologna ham, according to Extension Circular No. 42 of the University of Missouri College of Agriculture, take 60 pounds of lean beef chopped fine with 4 pounds of salt and one-half pound of saltpeter. Allow the mixture to stand 24 hours in a cool place. Add 30 pounds of fresh lean pork and 10 pounds of fat pork, 4 ounces black pepper, 3 ounces mace, 5 pounds cereal and 10 pounds water. Mix thoroly and grind so that the pork will be only of medium fineness. Stuff in cloth or beef casings. Smoke to a nice red color. Cook one-half hour, then immerse in cold water for 5 minutes and hang up.

By securing an arbitrary wholesale price of 7 1/3 cents per pound for sugar the Food Administration has made it possible to hold the retail price between 8 and 10 cents per pound even in the face of actual world shortage. During the Civil War sugar advanced from 8 2/3 cents retail to 15 cents per pound. Such a jump today would take $468,000,000 out of the American consumer's pocket.

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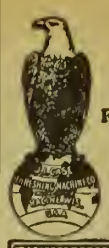

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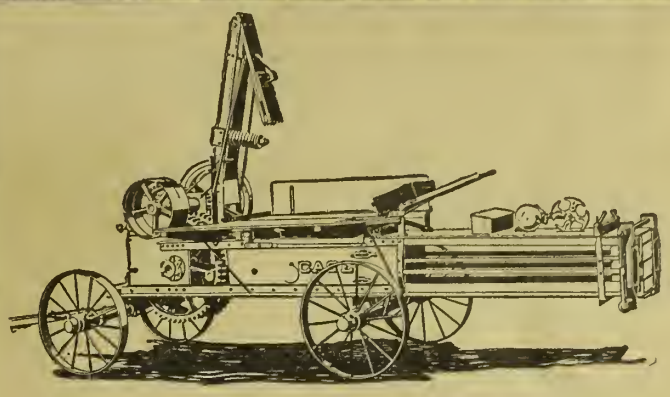

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EVERY farmer owning a Tractor should also have a Baling Press. It extends the use of your Tractor, and makes money where your engine would ordinarily stand idle. You can not only take care of your own hay, which brings more money when baled, but there is always an opportunity to do custom baling for your neighbors.

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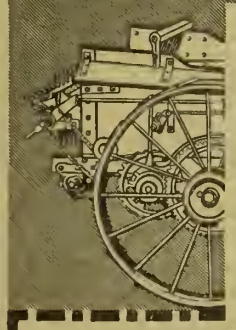

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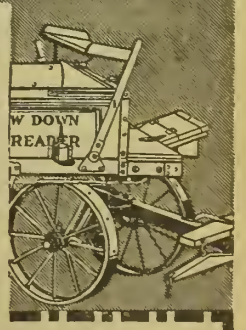

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Air and Salt for Cows

Dr. L. S. Dijkstra

Prohahly very few of our readers have ever figured on the quantity of air they or their livestock need every day. For the purpose of calculating this quantity it is necessary to have very fine instruments. When you go to milk your cow just fix in mind that she needs every minute an amount of fresh air equal to four times the content of your milk pail. Why does she need so much fresh air? Close yourself up in a small room, air tight, and you will soon notice a dull feeling and if no air is admitted the result will be suffocation. The room remains the same and you have done nothing except to breathe, but by your hreathing you have taken with each breath a large quantity of oxygen and replaced it by carhondioxide and waterdamp.

The same applies to your stock. Air is essential to life and as we can get it so cheaply let us get all we can of it, and with fresh air get good health. If the weather, therefore, does not allow you to have the stock outside, you must provide a well ventilated barn or shed where there is sufficient shelter and plenty of fresh air. Never expose a dairy animal to damp, cold winds, to snow or to cold rains, for if you do, it means a reduction of milk flow. Also there is a liability to pneumonia, kidney trouble, rheumatism, etc. A dry cold wind, however, will not hurt the cows.

What is the method for providing sufficient fresh air and at the same time preventing dampness in the stalls, which often may be the cause of disease? A simple method would be, of course, by opening all the doors and windows, but every farmer knows that this would expose his stock to strong drafts and in that case "the cure would be worse than the disease." In most well equipped dairy harns excellent systems of ventilation are found. However, it is not every small dairy farmer who can afford such a system. The inexpensive method of providing fresh air is to have single sash windows hinged at the bottom and made so that they will swing in at the top.

Salt

Did it ever occur to you that common table salt is a life essential? Experiments made in recent years have taught us many interesting things ahout the function of salt in the body. We know, for instance, that the color of the blood is caused hy corpuscles. These are dissolved or rather suspended in a watery mass, which we know as blood serum. Compared with other chemical solutions this serum is represented in the dairy cow by a strength of 0.8. The effort is to keep it at this strength all the time. How is this done? By means of common salt. The cow needs very little salt for this purpose and she finds it in the various feeds which, with few exceptions, contain all the salt needed. If the animal does not receive sufficient salt the hlood strength would diminish and if continually deprived of salt death would ensue. If too much salt is taken up so that the hlood strength should increase, say to 0.85, the corpuscles would become so tiny that the result again would be fatal.

While such results seldom occur it nevertheless shows us the necessity for salt in the diet. While it is not absolutely necessary to feed salt separately to keep up the blood strength, there are other factors which require that we should give our cows some salt regularly. In the first place salt helps the digestion of such products as hran, old hay, etc., and it is also a good regulator for the bowels. In case of foods liahle to cause hloating, as for instance green alfalfa, salt promotes rapid chewing of the cud which relieves the pressure and the danger from bloating. Animals slightly hloating, if given a handful of salt, will often start chewing immediately, thus preventing fermentation and possible death. As to the quantity of salt I might say, one good teaspoonful to the animal should regularly be added to the feed morning and evening. Salt lick stones are also excellent for this purpose.

Curry Comb

The curry comb also is worth mentioning as a factor in the care of dairy animals. Its chief purpose is to keep the skin clean and saniatry. Did you ever stop to think ahout the functions performed by the skin of a human heing or the hide of an animal?

First: The skin takes in fresh air and casts off poisons from the body.

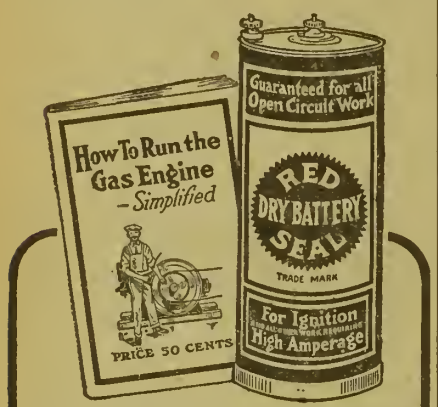
Second: The skin regulates body warmth, prevents loss of warmth from winter's cold and enables the body to relieve itself of surplus heat in the summer.

Third: Experiments have shown that the skin forms, so to speak, an electric battery which, when ohstructed in its working, leads to conditions of ill health.

Fourth: The skiu helps the renovation processes of the body. A human heing renews the weight of the entire hody in seven years and a good milk producing cow in ahout four to five years.

This shows us that it is quite important to keep the pores of the skin open. Experiments have shown that the varnishing over of the skin or burning the skin thru, hy which one-third was prevented from performing the regular functions, results in death. So it pays to keep your stock clean by use of the curry comb and brush. It insures cleaner milk and better health.

A close friend to the curry comb is the broom. Not much need be said about the broom; the only thing I wish to emphasize is that, at present high prices of feed, it is a very bad habit to sweep out the stable one minute and the next minute use the same broom to clean the grain and hay out of the manger. I have seen this done. This not only causes a waste of feed for the cows will not eat anything that is soiled, but is highly unsanitary There should be a feed hroom and a manure broom in every barn.



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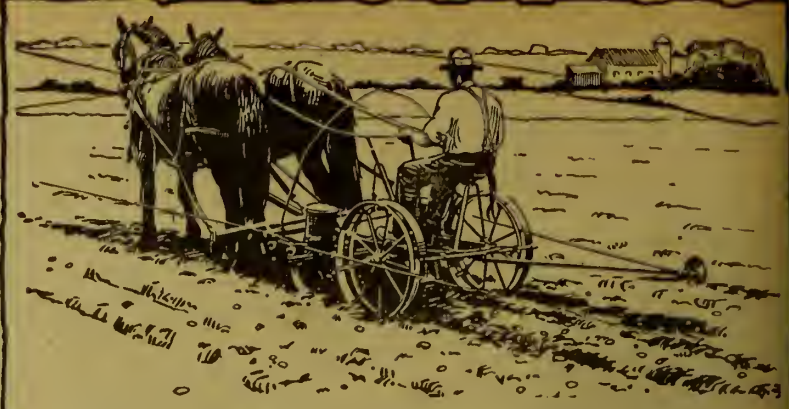

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YOU know how much better chance a corn crop has when it gets a good early start with an even stand. It takes a good planter to give it that start, a **C. B. & Q.** or **International Corn Planter** that is easily adjusted and that stays adjusted until the job is done. Consider these planters feature by feature.

They plant corn accurately whether used with edge drop, flat drop, or full hill drop plates; whether the corn is checked or drilled. The drop clutch can be changed, while the planter is working, to drop 2, 3, or 4 kernels to a hill. The tongue is easily adjustable to the height of the horses. A handy foot drop lever makes head-row planting easy.

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What Gas Engine Will Do

No matter what power the farmer may have for turning over his soil and putting in a crop, the gas engine is absolutely necessary because it delivers its power at low cost. The gasoline or kerosene engine is usually selected for the work it is to do with liberal surplus and it saves developing a large excess above the ordinary needs, or operating a high power, high priced machine on a small job. Generally it does not pay to operate a 2 h. p. machine with a 20 h. p. outfit, because the extra fuel required would make the joh cost too much and there would be danger of ruining the smaller machine. Cost of fuel is a large item if the engine power is too great. Enough power is always desirable, however, and it can be had at a favorable cost in the average farm engine. From reports sent in by engine users to a large engine manufacturer, it is estimated that 25 cents worth of fuel will do the following kinds of work:

Will cut 12 tons of silage, elevating it 30 feet.
Will cut 10 to 12 cords of wood.
Will run drag saw, cutting 6 to 8 cords wood.
Will grind 40 to 50 bushels shelled corn.
Will grind 20 to 25 busbels ear corn.
Will grind 20 to 30 bushels wheat.
Will make 2,000 to 3,000 lbs. milk into cheese.
Will pump 1,200 to 1,600 gallons water.
Will pump water for 80 to 100 head horses.
Will pump water for 400 to 500 hogs.
Will pump water for 500 to 700 sheep.
Will shell 300 to 350 bushels corn.
Will cut 25 to 30 tons silage.
Will cut 20 to 25 tons hay fodder.
Will furnish 80 hours of electric light.
Will make 4 to 6 barrels flour.
Will do 5 weeks' washing at 2 hours a week.
Will furnish lights for 8 rooms for 10 evenings.
Will grind from 125 to 180 pounds green bone.
Will turn the grindstone, run the emery wheel, forge, lathe and drill for 24 hours.
Will pump 30,000 gallons water with centrifugal pump.
Will pump water from 150-foot well all day.
Will run a medium cutter half a day.
Will run a medium size saw 9 hours.
Will bale 5 tons of straw.
Will run a 750-lb. drill half a day at 250 to 300 feet.
Will run a home water system, furnishing water for an 8-room house 10 days.
Will save your horses two-thirds of the work on a binder for a day.
Will grind 1,000 to 1,200 pounds alfalfa meal.
Will mix 20 to 30 yards of concrete.
Will run auto-mower 18 hours.
Will run sprayer and handle 2 or 3 leads of hose all day.

Silage is the best roughage for fattening any class of cattle

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Here's a Boost for Teparies

Western Farm Life:

Who has not tasted of that delicacy of the garden, the black wax bean, in its dry state, after it had reached its majority and taken on that glossy, rich, black color? What bean that grows can tickle the palate more? Yet you never see them in the market place except in the green state, pods and all. The color of the gentleman forbids his presence among his white brethren and he has to ride in jim crow cars along with other gentlemen of "color."

So it is with the pinto. He is not black, but he might as well be, for it has been determined long years since by our highest court that the blood must be 100 per cent pure to be a white man, yet we have the English and the Dutch and the Norwegians, all white, and entitled to ride in the same car.

The colored man in his sphere and the colored bean in its sphere are both alike to be respected. Hence it is that in Mexico and in those parts of Colorado and New Mexico to which the pinto has migrated, as at Denver and round about, people gladly buy him in the market place and pay the usual bean price, not asking or expecting any discount of price on account of race or color, or previous condition of servitude. They know him not only by his taste, but there are all our neighbors on every hand to give him a boost. They raised him on their farms, and we are all alike interested. But not so a bit back east of here. A few buy him if his price is much less, and even then the good housewife says: "Why did you buy such a looking bean as that?"

And that husband says: "He is good." And wife says, "He don't look it." And the husband says: "He is cheap." And the wife says: "He looks cheap."

Oh, if he were only white!

His spots show his rightful pedigree. Nor can he change them any more than the leopard can change his spots. And this works his undoing. Those two million soldier boys will want some of them, but they do not all hail from Colorado and New Mexico, and the Government is right in not feeding the army altogether on the pinto bean.

Brothers of the bean industry, the solution is: desert the gentleman; break away from Mexico and raise a white bean, for his enemies dub him "Mexican." Before going so strong on a bean of color we should have scurried around to find a white gentleman for these western plains. Mexico is on the silver standard and it takes more silver to make a dollar there. No country amounts to much that is on the silver basis. It takes more colored Mexican beans, too, to bring an American dollar. The gold standard and the white bean standard are one and inseparable.

There is the little white tepary. I know some claim it is no better under our western conditions than the pinto. But it is enough to know it is as good, for it is white and small, and yields as well. You can take a bushel of them to your merchant and make him believe it is the navy. No bean is better to eat, and where one has to put in a slab of bacon or ham bone to make the Mexican eat good, the tepary needs but a little lump of butter or a couple of slices of bacon. If those ninety million pounds of pintos we raised this last year were all teparies there would be instant sale at white bean prices, just because they are white.—J. A. Tracy, Fort Morgan, Colo.

After the War, What?

There will be a tremendous advance in agriculture after the war is ended, is the opinion expressed by Dr. Henry Jackson Waters, retiring president of the college, in his farewell address to the students of the Kansas State Agricultural college.

"This has been the case after every great war that has ever been fought," said President Waters. "After a time spent in camp, men turn instinctively back to the land.

"China is certain to develop her agriculture, as will also South America. Africa will be developed and transformed. There never was a more encouraging or inviting outlook for the trained man, so the one parting word of advice I would give you is, stay by your work in college as long as you can.

"There is a great complaint of the shortage of labor in this country. Industries are paralyzed. Land is going untilled, and in some cases crops are unharvested because of this shortage. Yet there is no shortage of labor. Never before was there as much idleness and unemployment as there is in this country today. We must decide whether the service we are rendering is necessary or important and decide upon the service that it will be best for us to render.

"The indications are that when the war is over this country will suddenly be forced to change her custom of selling raw material in which from 5 to 15 per cent of labor is involved to that of furnishing products in which the labor alone will be from 45 to 70 per cent.

"We have before us one great task—to win the war. Everything else must be subordinated to that. But in your thinking and in your planning look ahead also and prepare to render the best possible service in the days when the war will be over and the world must be rebuilt."

Comment by Farmer Putnam

Continued from page 11

of interest includin' the tunnel, Al Neale, Noncompogger peak, Tom Moynihan, F. D. Pyle, Charley Adams, Lynn Monroe, Warren Wilcox, Ote Skinner, Judge Bell, Sol Sprague, B. S. Tobin, Doug. Lytle, F. D. Catlin, Carl Westesen, Tony Monell, etc. I caln't remember 'em all, but every feller I met give me a warm welcome and wanted me to buy a piece of land and stay. Them people is sure hospitable. I told 'em I wasn't lookin' fur a location, because if I was Josephine would be here with me to do the selectin'. When there's anything to buy she does that part of it; I ain't no business man and what little I've got in the way of this world's goods is due to my wife. What I come over here fur was to help them professors and county agents put on some institute lectures. Their programs was all good, but the one I enjoyed most was on the California mesa, where we had chicken, roast beef, pork and pintos, all kinds of sandwiches, six kinds of cake, coffee and a lot more. It was one of the best food demonstrations I ever attended. Before and after the demonstrations we had some lectures which, while dry, was very good, leadin' up to the actual feedin' tests at the tables. Prof. Morton talked on feeds and feedin'; Miss Haynes on foods and their conversation, and I done the actual eatin' of 'em, with the able assistance of the rest of the staff. They had one professor with 'em that was new to me. I don't know how it was that I never run acrost him before. We took to each other right from the start. His name is Bader. He was ranch raised and his eddication hain't spoiled him. He is of the open face type with a good sized smile that meets you half way and when he talks to the farmers they kin tell where he was raised.

Another new feller was Mr. Lindgren. He is the agriculturist fur the project and helps the farmers git in more purebred stock and organizes shippin' associations fur hogs. They got two new county agents over here—Nevius fur Montrose and Divilabit fur Delta county. Them two and Lindgren does team work and with a bunch like that to serve the farmers we kin look fur good progress in solvin' their problems of production an marketing.

The county agents was passin' out bean contracts at the meetin' and they found the farmers ready to sign up. I don't know how Hoover's goin' to eat all them beans. He's goin' to git a passel of 'em on every train that goes east from now on.

I went to a Red Cross show at the Armory in Montrose the other night, havin' reserved seats way up in front near Al Neale, where we could see him auction off the pig fur which they got over $200. It was a good show, them little youngsters givin' us samples of folk dances of all modern civilized nations. They was well trained and one of the best home talent shows I ever seen. That's the way with them folks over here; when they do anything it's done right.

I'm about ready to start back, but I want to say to you folks around Montrose you hain't seen the last of me, and I'm comin' ag'in onless you-all don't like my jokin' way and should request me to stay away. Then I'll do like a certain potato buyer that was in your country when I come. He told the depot agent when he pulled out after havin' had a meetin' with your county war council, that he wanted a ticket that would take him so fur away from Montrose that it would cost $9 to send him a postal card. The agent told him he couldn't sell him to the point where the war council suggested fur him to go, because the D. & R. G. hadn't quite gone there yet, but he would be glad to sell him to Denver, which was on the road there.

THOMAS JEFFERSON PUTNAM

The whole great problem of winning the war rests primarily on one thing, the loyalty and sacrifice of the American people in the matter of food.

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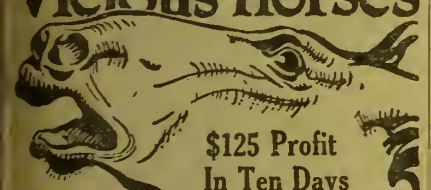

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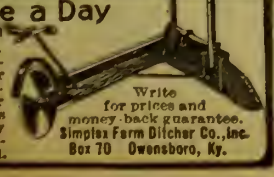

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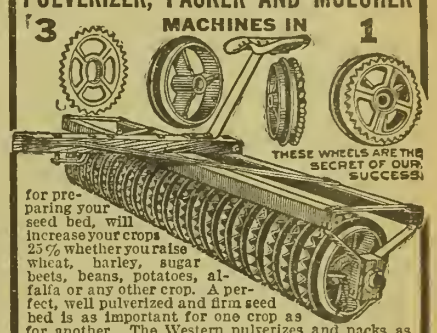

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Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Our western dairy farmers will be glad to know that the committee appointed by the Food administration for the purpose of studying the milk problem has reported in favor of increased production and increased consumption, together with recommendations that may result in lower distribution costs. The committee found that the slaughter of dairy cows was above normal early in 1917. The report urges the encouragement of the largest possible consumption of milk, butter and cheese at home and the largest possible export of condensed milk and cheese to the Allies.

"We are looking ahead a year at a time for our wheat supply; we need to look at least three years ahead for our dairy supplies," says the report. Reasons for increased production are given as necessary to national safety for the present; as a measure of national vitality for the future, which is bound up in the welfare of our children. City milk consumption is only 112 quarts per capita as against 288 on the farm, hence there is need for greater use of milk in the cities. It is recommended, also, that skimmilk and buttermilk should be made avilable to the city consumer, because of the food value of these products.

This report should help in combatting the efforts of the packers to have the tax removed from colored oleo, in order to bring "bull butter" into closer competition with real butter. It isn't a favor to the consumer to remove the restrictions from an imitation product which isn't butter and cannot become butter except in color. The consumer is protected against fraud in coloring by a ten cent tax.

As far as the packers are concerned it makes little difference which product the public buys; they handle both butter and the imitation, so they catch the consumer "coming and going." It does make a difference to the consumer, and when he fully understands the producer's side of the case and the necessity for the dairy cow in maintaining fertility as well as the absolutely essential need of milk for human food, he will not be moved by the packer plea for lowering the cost of imitation butter. If butter were the only product to be reckoned with, that plea might be considered, but to get milk for the children there must also be a market for the surplus in butter manufacture. When legislation strikes at the butter supply it necessarily hits the milk supply.—A. T. S.

Dairy Breed Records

In Farmers' bulletin 893 of the United States Department of Agriculture, "Breeds of Dairy Cattle," the average productions of five breeds most generally known in the United States are shown.

For Ayrshires the average of the 2,598 cows that have completed yearly records for advanced registry is 9,555 pounds of milk testing 3.95 per cent of butter fat, amounting to 377.51 pounds of fat. The ten highest milk producers of this breed range from 25,329 to 18,745 pounds of milk and the average of these ten highest producers is 21,538.8 pounds of milk. The ten highest butter-fat producers among Ayrshires range from 955.56 to 744.73 pounds, with an average for these ten, of 855.4 pounds of butter fat.

In the Brown Swiss breed the average of 199 cows that completed yearly records for the register of production is 10,868.7 pounds of milk, testing 3.995 per cent, amounting to 433.45 pounds of butter fat. The ten highest milk producers of the breed range from 19,460.6 to 16,496.7 pounds of milk, with an average, for these ten, of 17,372.2 pounds. The ten highest butter-fat producers of the Brown Swiss range from 798.16 to 647.30 pounds, with an average, for these ten, of 683.72 pounds of butter fat.

In the Guernsey breed the average of 6,200 cows that have completed a year's record for advanced registry is 8,934.44 pounds of milk, testing 4.99 per cent, amounting to 446.01 pounds of butter fat. The ten highest producers of this breed range from 24,008 to 17,297 51 pounds of milk with an average, for these ten, of 19,337.9 pounds of milk. The ten highest Guernsey butter-fat producers range from 1,098.18 to 910.67 pounds, an average, for these ten, of 976.75 pounds of butter fat.

Among Holsteins, 3,220 cows that had completed a yearly record for advanced registry averaged 14,622.7 pounds of milk, testing 3.424 per cent butter fat, amounting to 500.7 pounds of fat. The ten highest producers of this breed averaged from 31,246.9 to 28,826.4 pounds of milk, an average, for these ten, of 29,898.34 pounds of milk. The ten highest Holstein butter-fat producers averaged from 1,205.09 to 1,017.28 pounds, an average, for these ten, of 1,090.89 pounds of butter fat.

In the Jersey breed, the average of 5,244 cows that had completed yearly records for the register of merit was 7,792 pounds of milk, testing 5.35 per cent, making 417 pounds of butter fat. The ten highest milk producers ranged from 19,694.8 to 16,633.2 pounds, an average, for these ten, of 17,703.4 pounds of milk. The ten highest butter-fat producers range from 999.1 to 875.2 pounds, an average, for these ten, of 943.1 pounds of butter fat.

Breeds and Weights.

I am inexperienced and have some pigs that are about 7 months old and weigh only 100 or 110 lbs. I think I probably better kill them off and get good breeding stock. These are from local stock, but supposed to be Poland Chinas. What breed do you recommend, or what is your personal preference for high altitudes and cold winters? How would Hampshires do?

What should a good healthy pig weigh at six months?

for feed we have alfalfa, stock beets and barley. Please advise me as to what proportion

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The De Laval is not only a cream saver but a time and labor saver, and with the present shortage of farm help every farmer needs to utilize time and labor saving machinery wherever it is possible to do so.

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Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for new catalog or any desired information.

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r pig of the mixture, or of each food?—R. L.
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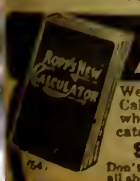

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Don't buy until you get our prices and learn all about the best and cheapest fence to buy.

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A pig that has been pushed all his life should weight 200 lbs at six months. They will be in good, growthy condition if they weigh 175 lbs. Where they weigh less than 125 lbs, they undoubtedly are stunted. I think you will be wise to get rid of the pigs you have and get new stock. You should feed alfalfa hay in a rack, where the pigs can take as much or as little as they want. Feed your barley ground, if possible, either dry, in a self feeder or mixed in a thick swill, giving water once a day. A hundred pound pig should get about four pounds per day. A full feed will run about four per cent of a hog's live weight. Feed stock beets not to exceed 1/5 of the grain, by weight.—G. E. M.

Co-operative Bull Associations

There is a lack of definite purpose in the breeding of livestock on the part of the American farmer. The farmer who has only a few cows usually has them bred by the nearest available bull, often without regard to breed or breeding. The result is a promiscuous admixture of breeds and lack of improvement.

The cost of bull service also falls heavily on the commercial dairyman with a small herd, as bulls must be changed every two or three years to avoid inbreeding. He therefore, as a rule, buys a bull calf from the nearest farmer who keps purebred cows of the breed in which he is interested. Too often cost is the first consideration. Too seldom is any authentic production record of the bull's ancestors available. The result is lack of improvement. Tho a great bull may occasionally be secured in this way, he will in nearly every case have been disposed of before his heifers come in milk and his value has been determined. In this way many of the greatest bulls have been lost to the dairy industry. A co-operative bull association will remedy these difficulties.

A co-operative bull association is a farmers' organization whose purpose is the joint ownership, use and exchange of three or more high-class purebred bulls. The territory covered by an association is divided into three or more breeding blocks, and a bull is stationed in each block for the service of the 50 to 60 cows in the block. Every two years the bulls are interchanged. Thus at the initial cost, a bull for every 60 cows is provided for six or more years. The cost of bull service is thus greatly reduced, the very best bulls can be obtained, and the man with limited means and only a few cows is enabled to improve his herd. Bulls of outstanding merit are preserved for their entire period of usefulness. Associations of this kind teach co-operation, encourage careful selection of cows and calves, introduce better methods of feeding and management, intelligently fight infectious diseases of cattle, and assist in the marketing of dairy stock and dairy products. Assistance in organization may be obtained by writing to the Dairy Division, Bureau of Animal Industry, U. S. Department of Agriculture.

Food Value of Milk

While milk is sometimes used as a beverage, the fundamental reason for the existence of the present vast traffic in milk is the fact that milk is one of our most important foods. Not only does it offer energy in a readily available form, but the amount and variety of the compounds contained in milk make it a peculiarly valuable food for growing children. The present consumption of milk in this country is only about 0.6 pint per capita per day, altho from the standpoint of protein which is especially needed by the growing child, or from the standpoint of total energy as utilized by the adult, much more food value is obtainable from milk for a given sum of money than can be purchased in any comparable food. The high food value of milk is shown by the following table recently prepared by the U. S. Department of Agriculture:

Protein: 1 quart of milk is equal to 7 ounces of sirloin steak; 6 ounces of round steak; 4.3 eggs; 8.5 ounces of fowl.

Energy: 1 quart of milk is equal to 11 ounces of sirloin steak; 12 ounces of round steak; 8½ eggs; 10.7 ounces of fowl.

(From Circular No. 205, Quality in Milk, Illinois Experiment Station.)

A good many men have risen to make speeches, but only a few by making them.—Judge.

300 Sick Sheep In One Flock Saved by CAREY-IZED Stock Tonic Brick

Enthusiastically endorsed by leading veterinarians and stock raisers.

G. W. Thompson, manager of the Fred Mellick sheep ranch, near Hutchinson, Kansas, writes: "Mr. Mellick had about 300 sheep that were scouring badly and in run-down condition. We got a hundred Carey-ized Stock Tonic Brick and fed them regularly. Those sheep are now as healthy as the balance of the flock, and a lot of them that were very puny cannot be distinguished from the rest. They are all eating their feed good and are gaining faster than any lot of sheep I ever saw."

SHEEP CRAVE AND NEED CAREY-IZED STOCK TONIC BRICK

It is composed of eight different ingredients which nature and science prescribe and which instinct impels animals to seek when ailing. Contains powdered gentian root, sulphate of iron, bi-carbonate of soda, sulphur, carbinized peat, quassia, charcoal and pure dairy salt. Equally good for sheep, hogs, cows or horses.

A powerful worm destroyer and conditioner. Aids digestion, keeps bowels, kidneys and liver in order, purified the blood, builds up the entire animal system so it resists all disease. Thousands of feeders testify to its efficiency.

Solid Brick Form Makes Carey-ized Stock Tonic Brick Convenient and Economical to Feed. Does away with the troublesome dosing. Just place it where they can get it all the time. Animals eat only when they need it and as much as they need—take their medicine voluntarily without any bother to you. Salts them at the same time.

Try It 30 Days at Our Risk

Order a dozen or more brick from your dealer; let your sheep and other livestock have free access to it for 30 days. If not satisfied with the result, return what you have left and get all your money back. If your dealer does not handle Carey-ized Stock Tonic Brick write us his name and we'll see that you are supplied.

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Enclosed find $2.50 (check or P. O. money order). Send me, prepaid, 1 dozen Carey-ized Stock Tonic Bricks for 60 days' trial—my money back if not satisfied.
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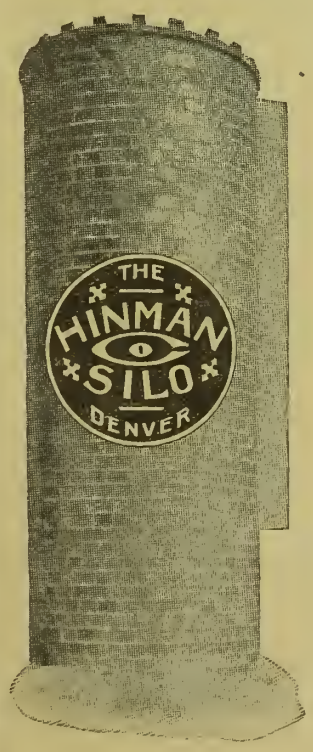

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Contains the most reliable information about the best seeds for you to plant. It contains the best novelties and standard varieties of Vegetable and Flower Seeds, Plants, Bulbs, Trees and Cullen's Ever-Bearing Strawberries, etc. This valuable catalog is free. Write for it today.

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Profitable Farm Poultry

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Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

The most difficult problem in replenishing the poultry flock, in the minds of most people, is that of incubation, especially when artificial incubation is practiced. It has been our observation, however, that more people are successful in getting good hatches than in raising good percentages of the chicks hatched. Still fewer people raise to maturity even a fair percentage of good strong chicks. While the process of incubation determines to some extent the vitality of the chicks hatched, good hatching and good feeding will never mature good strong chicks unless sound business brooding methods are followed.

A fifty per cent hatch, one chick from two eggs incubated, thruout the season, should be considered a good hatch. Anyone should be happy at such a return. But a fifty per cent hatch is easier to get than a fifty per cent matured flock; that is, one-half of all chicks hatched brought to maturity. Only to a certain degree is the operator responsible for the hatch, as so many factors over which he has no control enter into the reckoning, but that is no excuse, barring accidents, for anyone losing more than a very small per cent of strong chicks hatched.

The first essential to success is a full appreciation of the fact that the brooding of chicks is a difficult operation, one requiring knowledge and experience. The person who believes otherwise had better bet his money on the oil game, it is safer. It is probably safe to say that the great mortality of chicks has wrecked more poultry ventures than any other one thing. We have in mind a big plant near Denver where the mortality the first year was 90%. And this plant was managed by an experienced poultryman. When we consider that it takes about six eggs to mature a pullet and that fully half the flock should be replaced each year, the fate of such a business is easily foretold. The hen is the brooder most commonly used on the farms; for the sake of peace in the family we will concede that she is the most successful brooder on the average farm. Give the hen her freedom to run wild, as does the pheasant and the Bob-white, there is no doubt in our mind that she would pull off a 98% hatch and bring them a 100% brood. But under artificial conditions, under the various regulations and restrictions imposed upon her by us, she is not a glowing success in either case.

We are not going to discuss the relative merits of the hen and the commercial brooder as brooders, except to make this statement, that until our farmers adopt artificial incubation and brooding and learn to play the game right, putting as much science into this part of the big agricultural program as they do into the production of alfalfa and the feeding of sheep, just so long will our farmers eat storage eggs six months in the year while they are feeding star boarders. I wish this statement would sell a carload of incubators and brooders and that the manufacturers would give us a commission on the deal! Solomon depended on the setting hen and when his wives fried some water glass eggs for him, he said, "Is there any taste to the white of an egg?" Six months after it was laid the taste had leached out. An incubator will hatch your chicks when you want them; a brooder will raise them for you as well or better than a hen, do it easily, and handle chicks in large numbers. put the cockerels on the market when broilers are high, and give you early laying pullets.

A roomy, rain-proof, wind-tight coop should be provided for the hen with chicks. Whether the floor is of dirt, boards or concrete, it should be higher than the ground surrounding it, and it must be kept dry. For the first three or four weeks the hen should be kept confined in this coop. This is the reason it should be roomy. When the chicks are strong on their legs, they should be allowed to run out and in at will. Never should the hen be given her freedom when there is danger of the chicks becoming chilled. As long as the hen is confined the chicks have a safe refuge from the greatest chick enemy, chilling. It is my sincere belief that 75% of chick mortality would be done away with if chilling were prevented.

Is there any need of mentioning cleanliness in the coop? There is no excuse for not practicing it. If straw or other clean litter is scarce, use sand or earth, dry, of course. Use it liberally and often. Filth is the next worst enemy of baby chicks. If the brood coop has been used before, or if it has been kept in or near poultry buildings, it should be sprayed with some disinfectant or whitewash. Lice and mites will get the chicks if allowed to breed at will. Of course, you have seen to it that the hen is not lousy. A clean, tight coop, plus a clean, quiet hen (confined), equals a strong thrifty brood of chicks.

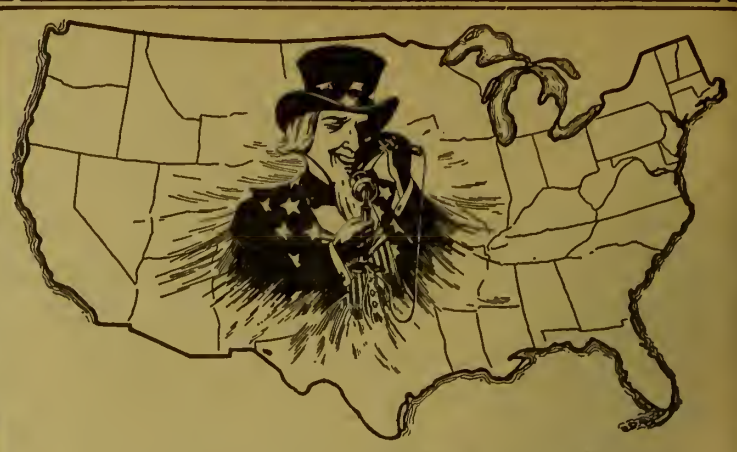
We cannot discuss, sometimes we would fain cuss, the various types of brooders on the market! Don't get a brooder because it is cheap, but buy a brooder because it provides the proper conditions. Some cheap brooders do this and some expensive ones do not. See that the brooder you select provides—first, heat. We use the term heat, not warmth; we mean heat, lots of heat, too much heat. You can get along with a brooder that furnishes too much heat, but one lacking in sufficient heat will keep the hearse busy going to the chick cemetery. Have the brooder going two days before you need it to be sure it is working good and keeping an even temperature. Your chick has been kept for twenty-one days at a temperature of about 103 degrees. When it is hatched it is about as susceptible to change of temperature as a newborn baby. We give the baby a drink of whiskey to warm it up inside and then wrap it in nice warm soft flannels and put it in a nice warm place because we know that a thoro chill is almost fatal. We usually allow the chick to drop into the nursery drawer of the incubator where the temperature is 10 degrees lower, then remove it to a brooder of like or lower temperature, "hardening off", we call it. Then when the little fellow dies we call it "bowel trouble," blame too early feeding or anything but the chilling we gave it. Your chicks will be pretty free of bowel trouble if you get that brooder going at anywhere from 105 degrees to 110 degrees and keep it there, always, of course, with the way of escape open for the little fellow. We do not mean that the chick should be forced to endure this temperature, but we do mean that it should be able to get all the heat it wants at any time. It should be allowed to come near or go away at will. With the heat should be provided pure air. It is hard to provide fresh air to a brooder which cannot furnish an excess of heat. The brooder that is built like a hen will prove most satisfactory; one where the bodies can be kept in the warmth while the heads can enjoy the fresh, less warm air. The brooder should not be dark. Chicks are liable to leave it and crowd in some light place. Better confine the chicks to a space very close to the brooder until they know where to go for the heat, gradually extending their range.

It is as essential that the brooder be placed in a satisfactory place as it is that the hen be so kept. Chicks must be provided with a comfortable playground where there is no danger of chilling.

Brooders now on the market are capable of accommodating 50 to 1,000 chicks. The farmer will find it as easy to take care of 100 chicks in an up-to-date brooder as a dozen chicks with a hen. Larger units mean less hatches, a more uniform flock, a greater output of broilers at a time. The hatching can all be done in three or six weeks, eliminating much of the drudgery of hatching thru a period of three or four months.

The Colorado Agricultural college, Fort Collins, has issued a bulletin on "Baby Chicks" which is free to all who ask for it. In this bulletin will be found descriptions of some useful devices in connection with chick raising. The college has also some government bulletins on incubation and brooding for distribution. Get all the information you can, then plan your work, use good sound judgment and help eliminate the awful loss of eggs and baby chicks. Hatch a chick from two eggs, kill the weaklings, and raise the rest.

The greatest manufacturing opportunity in the Rocky Mountain region is offered by the fruit-growing districts of the Western Slope.



Uncle Sam Must Be Served First

The high development of telephone efficiency in this country gave the United States, when it entered the war, a superiority over all other nations for quick communication.

The nation's capital and the various military headquarters are linked with all the great industrial centers of the country by the long-distance lines of the Bell Telephone System.

Thousands of miles of special telephone wires have been turned over to the government for its exclusive use.

Right of way is given to government telephone calls over all lines. In its prosecution of the war our government has the effective co-operation of the Bell Telephone System, which reaches 70,000 communities and extends to every military camp in the United States. One man in every ten from the maintenance and construction forces of this company is now in the telephone signal corps of the army or in some other branch of the military service.

Not only have our men answered their country's call, but the telephone operators are "doing their bit" also. These faithful young women realize the tremendous dependence the nation places on rapid communication in this crisis, and are accepting cheerfully the heavy responsibilities thrust upon them.

In spite of the war and what it has meant to this company in the increased number of telephone messages to handle, the enlistment of so many of our trained employes, the shortage of equipment, and the high cost of telephone materials—

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TELLS WHY CHICKS DIE

E. J. Keefer, poultry expert of 424 Reefer Bldg., Kansas City, Mo., is giving away free a new book which tells of a simple home solution that raises 98 per cent of all chicks hatched and cures white diarrhoea over night. All poultry raisers should write for this valuable free book

Poultry Book Latest and best yet: 144 pages, 216 beautiful pictures; hatching, rearing, feeding and disease information. Describes busy Poultry Farm handling 53 pure-bred varieties. Tells how to choose fowls, eggs, incubators, sprouters. This book worth dollars mailed for 10 cents. Barry's Poultry Farm, Box 66, Clarinda, Iowa

Farmers' Institutes Held in Montrose County

Continued from page 3

markable cash returns being reported from that source.

Dairy and beef cattle are on the increase. Hogs showed a decrease in 1917 over the previous year, but an impetus is being given pork production this season that will result in many more farmers raising hogs. One of the difficulties in pork production has been the marketing problem. This is being solved by the organization of hog shipping associations in the various localities.

Standardization of breeds and type are among the lines of activity followed in both hogs and dairy cattle. In this work the project agriculturist, Mr. Lindgren, H. C. Nevius, the county agriculturist of Montrose county, and E. H. Divelbiss, agriculturist of Delta county, are co-operating.

Co-operative bull associations are being organized among the dairy farmers on the project, one or two units having already been completed.

In the matter of beef cattle the practical work includes the co-operative buying of purebred bulls, two carloads of Shorthorn and Hereford bulls having been purchased for project farmers at the recent National Western Stock Show.

The writer visited the valley with a party of college extension workers that included Prof. G. E. Morton, Prof. E. H. Bader, Miss Miriam Haynes, County Agriculturists Nevius and Divelbiss and Mr. Lindgren.

While on the subject of feeds and feeding Prof. Morton gave the farmers the formula for the irrigated pasture grass mixture, in which there is much interest on the project. The necessity for permanent pasture is being recognized in all sections where the small herd of cattle or the flock of sheep are counted on as a source of income and fertility. The mixture as given the farmers at a meeting on California Mesa is as follows:

Orchard grass, 15 pounds,
Brome grass (awnless), 15 pounds,
Meadow fescue, 8 pounds,
Timothy, 6 pounds,
Alsike, 1 pound,
White clover, 1 pound,
Yellow sweet clover, 4 pounds.

This is heavy seeding—fifty pounds to the acre—but Prof. Morton says it will pay, because it provides a pasture that is good for at least ten years. Seed as early as possible in spring, on fall plowing, and don't pasture the first summer. Oats sown with it as a cover crop at the rate of 25 to 30 pounds gives good results, the oats being cut for hay. Take a hay crop off the second year and don't pasture till you get a thick, well-matted stand. This will carry at the rate of one and a half to two head of milk cows to the acre.

Prof. Morton advised barley and corn as grain feeds to go with alfalfa for pork production in the Uncompahgre valley.

Mr. Lindgren, in outlining his plan for the organization of hog shipping associations, stated that 139 cars were shipped out last year. The man who had well-finished hogs often found himself at a disadvantage in shipping out with a mixed lot. The need is for someone to look after the matter of assembling the hogs for shipment, classifying them according to weight and finish and having regular days for shipment. The cost of marketing the hogs in the past has varied from 80 cents to as high as $2. Shipments have gone both to the Denver and the Ogden market. The organizations of hog growers are intended also, for the purpose of preventing epidemic diseases in the droves.

During one of the talks given by Prof. Bader the question of utilizing sweet clover came up and there was the usual difference of opinion expressed by the farmers, some contending that sweet clover had no advantages in comparison with alfalfa; others, who had tried it, were convinced that the plant has a place even on the irrigated farm. Prof. Bader pointed out that there was a distinct advantage in favor of sweet clover on the forty or sixty acre farm, where a rotation is practised, which makes it inadvisable to use alfalfa, because of the frequent plowing up necessary on a restricted acreage. He called attention, also, to the fact that, altho an alfalfa field amy live many years, it reaches its maximum point in adding fertility to the soil thru storing its nitrogen, in the fourth or fifth year.

At the meeting held in Montrose. Stuart L. Sweet, acting head of the United States Bureau of Markets for Colorado, spoke on potato marketing, giving the growers some figures to show crop movement and outlining further plans for co-operation with the growers in keeping them advised regarding prices and crop movement. Standardization and grading were the two points emphasized as necessary in order to improve the demand for Western slope potatoes. He stated that the market this year was paying Wisconsin growers a premium of 10 to 25 cents a hundred for graded potatoes. He suggested the appointment of a local inspector by the growers, so that shipments would leave Montrose in first class condition. The federal bureau attends to inspection at points of distribution.

The growers of the Uncompahgre valley have had the same trouble experienced in other potato districts this winter—car shortage. They turned heaven and earth to get cars during the week I visited the valley and finally got action, resulting in a train load of fourteen cars going out over the narrow gauge line, eastward. The indications were, at that time, that thousands of bushels of first-class potatoes would never see a market. The onion growers had already given up hope of getting cars and onions were sprouting in the cellars.

Miss Haynes, in her talks to the women, emphasized war measures as applied in the home on meatless and wheatless days. The women were very much interested in talking these things over with one who knows food values and who could post them regarding economies that will aid the government.

County Agriculturist Nevius completed his farm bureau organization during the week. He found a gratifying sentiment among the farmers in favor of an organization thru which production and marketing problems can be handled with the co-operation of the agricultural college and the United States Department of Agriculture.

Increasing Farm Costs

It is a common observation in business that in a period of rising prices, the earlier part of the era is the more profitable, because, while the cost of production is also increasing, it lags behind the rise in price. As the rise in price begins to slow down, the cost of production tends to catch up, thus narrowing the margin of profit. This calls for more skillful handling of business.

This general business principle applies to farming as well as to other business. The farmers' statement: "Give us the season and the price and we can make the profits," was fairly well complied with in many sections last year. In some sections almost any kind of farming paid at least some profit. It is to be expected that during the next few years margins of profit will be narrower and more skill in handling the farm business will be required.

Man labor and horse labor on a group of typical Missouri farms that have been keping farm accounts in co-operation with the University of Missouri College of Agriculture for several years, have increased in cost as follows:

Year	Man Labor Cost Per Hour of Work	Horse Labor Cost Per Hour of Work
1913	12.5	7.9
1914	12.8	8.2
1915	14.1	7.7
1916	16.3	9.0
1917	17.0	12.0

The cost of putting in wheat, including seed, machine cost, man labor and horse labor, has increased since the fall of 1914 approximately as follows: Cost per acre, fall of 1914, $4.22; fall of 1915, $4.18; fall of 1916, $5.50; fall of 1917, $6.66.

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Now, when we are having the best time ever, trying to help our Food Administration in its supreme effort to win the war, doubtless many a busy and ambitious housewife feels like saying that victuals are not the only satisfying and necessary elements of home-making and thrift. I have just read a short quotation from the pen of President Chas. W. Eliot of Harvard, written some years ago, that may interest our readers. Dr. Eliot wrote: "Recognizing then that there are higher pleasures than eating and drinking, let us clearly perceive that three meals a day all one's life not only give in themselves a constantly renewed innocent satisfaction, but provide the necessary foundation for other satisfactions.

"Taking food and drink is a great enjoyment for healthy people, and those who do not enjoy eating seldom have much capacity for enjoyment or usefulness of any sort. Under ordinary circumstances it is by no means a purely bodily pleasure.

"We do not eat alone, but in families or sets of friends and comrades, and the table is the best center of friendships and of the domestic affections. When, therefore, a working man says that he has worked all his life to procure a subsistence for himself and his family, he states that he has secured some fundamental satisfactions, namely, food, productive employment, and family life. The satisfaction of eating is so completely a matter of appetite that such distinction as there is between the luxurious and the hardy in regard to this enjoyment is altogether in favor of the hardy. Who does not remember some rough and perhaps scanty meal in camp, or on the march, or at sea, or in the woods, which was infinitely more delicious than the most luxurious dinner during indoor and sedentary life? But that appetite depends on health. Take good care, then, of your teeth and your stomachs, and be ashamed, not of enjoying your food, but of not enjoying it.

"There was a good deal of sound human nature in the unexpected reply of the dying old woman to her minister's leading question: 'Here at the end of a long life, which of the Lord's mercies are you most thankful for?' Her eye brightened as she answered, after a moment's consideration, 'My victuals.'"

Some very encouraging and helpful letters from our readers are much appreciated and will receive our earnest attention as rapidly as possible. Our correspondence this month would lead us to think that bread is surely the staff of life—and that wheat substitutes are being tried out with satisfactory results by many of our housewives, altho others would like help from more experienced sources.

Mrs. Chas. F. Fuller of Carbondale kindly expresses her interest in the Farm Home and sends the following recipe for pie crust:

½ cup wheat flour
⅔ cup oatmeal
1 tbsp. lard

Directions: Put oatmeal thru food chopper, using crumb cutter; mix flour, oatmeal and lard and moisten with cold water, handling as other pie crust dough.

Oatmeal Bread

At night set sponge, using soft yeast or 1 cake yeast, mixing with wheat flour to make spoon batter. In the morning mix sponge with 5 cups oatmeal, ground fine in food grinder, 2 tbsps. sugar, 1 tsp. salt, 1 tbsp. shortening. Knead soft, let rise to double its size, work down and make into loaves, let rise again to double its bulk and bake 50 minutes to 1 hour. This makes very nice, light bread.—Contributed.

Note—We shall be glad to receive more suggestions and questions concerning bread-making.

Plenty of Potatoes

(U. S. Food Administration)

They are a splendid food, excellent for your body, delicious when well cooked. They are good fuel. They furnish starch, which burns in your muscles to let you work, much as the gasoline burns in an automobile engine to make the car go.

One medium-sized potato gives you as much starch as two slices of bread. When you have potatoes for a meal you need less bread. Potatoes can save wheat. They give you salts like other vegetables. You need the salts to build and renew all the parts of the body and to keep it in order. An old king is said to have tested each cook before hiring him by asking him to boil a potato. Even the best potato can be spoiled by a poor cook.

To boil them so that they will be "fit for a king," drop the unpeeled potatoes into boiling salted water and cook 20 to 30 minutes. Drain the water off at once. If they are cooked too long or allowed to stand in the water they get soggy.

If you peel the potatoes before cooking them you will waste time and potatoes both. You may throw away a sixth or even a quarter of the good part of the potato with the skins. Also, if the potatoes aren't covered up by the skins while cooking, some of the valuable material will soak out into the water. Even very small potatoes can be economically used, if they are boiled in their skins.

For best mashed potatoes. Peel the boiled potatoes, mash and beat until very light, adding salt, butter or oleomargarine and hot milk, a half cup of milk to six potatoes. If dinner is not ready to serve, pile lightly in a pan and set in the oven to brown.

Potatoes are good in breads. Get Farmer's bulletin No. 807, "Bread and Bread Making in the Home," from the Department of Agriculture, Washington D. C., to learn how to make potato yeast bread.

Potato Corn-Meal Muffins

2 tablespoons fat
1 tablespoon sugar
1 egg, well beaten
1 cup milk
1 cup mashed potatoes
1 cup corn-meal
4 teaspoons baking powder
1 teaspoon salt

Mix in order given. Bake 40 minutes in hot oven. This makes 12 muffins. They are delicious.

Potatoes Are Good in Cake

They are often used in this way to keep the cake from drying out quickly. Mash the potatoes and beat up with milk until very light. You can use your usual cake recipe, substituting 1 cup of mashed potatoes for one-half cup of milk and one-half cup of flour.

Potatoes For Your Main Dish

Potatoes, left over or fresh, may be combined with cheese or nuts or meat or other material often to make the main dish of the meal.

Potato Sausages

1 cup mashed potatoes
1 cup ground nuts, fish or meat
1 egg, well beaten
1½ teaspoon salt
⅛ teaspoon pepper, salt pork, bacon or other fat.

Mix the mashed potatoes and seasoning with the ground nuts, fish or meat. Add beaten egg. Form into little cakes or sausages, roll in flour and place in greased pan with a small piece of fat or salt pork on each sausage. Bake in fairly hot oven until brown.

Scalloped Potatoes and Cheese

Arrange a layer of sliced raw or boiled potatoes in greased baking dish and sprinkle with grated cheese and a little flour. Repeat until dish is nearly full. Pour milk over the whole about ½ cup to every 3 potatoes. Use skim milk. Bake in moderate oven until done. The length of time required depends upon whether potatoes are raw or boiled and whether the baking dish used is deep or shallow. Boiled potatoes, baked in shallow dish will take only 20 minutes. Raw potatoes in a deep dish may take as much as 1½ hours.

A Shepherd's Pie

Grease a baking dish, cover the bottom with mashed potatoes. Add a layer of cooked minced meat or fish, seasoned well and mixed with meat stock or gravy. Cover with mashed potatoes. Bake long enough to heat thru—20 or 30 minutes.

The above leaflet from which we have quoted is the U. S. Food Leaflet No. 10, and if our readers are interested and will write to the U. S. Food administration, Washington, D. C., the following leaflets may be had for the asking.

Do You Know Corn-Meal?
A Whole Dinner in One Dish.
Start the Day Right With a Good Breakfast.
Choose Your Food Wisely.
Do You Know Oatmeal?
Make a Little Meat Go a Long Way.
Food for Your Children.
Instead of Meat.
Vegetables for Winter.

NOTE—We should honor this request to send for these and other leaflets that are being so carefully prepared for our use and do what we can to get them circulated among our clubs and neighbors. Why not recommend their use for reading spelling and language material in our schools?

The past month filled with patriotic and other holidays has almost exhausted our supply of games, parties, etc., and many requests are being received for entertainments by which

Turn to page 21

Two new features!

Labor saving—beautifying.

Famous as a sure baker and fuel saver, the Great Majestic now adds to its reputation as a work-saver.

The new burnished blue polished top does away with the work and muss of "blacking". This isn't a temporary finish—it is *burned* into the iron.

The new smooth nickel trimmings are riveted on from the inside; yet the inside is perfectly smooth; no bolt-heads or nuts either inside or out to catch dirt or get in the way. Majestic riveting also holds the nickel permanently tight.

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—the farmer's family is robust, healthy, strong. They want the *best* of everything to eat.

The farmer's wife is an expert cook. She'll use only the best—that's why so many country housewives use Calumet Baking Powder.

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The Grange

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Pomona Grange at Fremont grange hall in Jefferson county on March 2nd found a good crowd in attendance and an unusually interesting and complete program. Director H. T. French of the Extension department of the Agricultural college and Mrs. French were among the speakers. Others on the afternoon program were Mr. Arthur Chapman, author of the famous poem, "Out Where the West Begins," and D. W. Thomas, field secretary of the State Council of Defense. There were also several impromptu talks, including one from State Master Morris.

Director French called attention to a neglected opportunity for serving the country and saving waste, by cultivating the odd corners of the farm, improving the ditch banks and grassing them for sheep, saving the fertilizer from the cities and applying it to farm lands and bringing up the "neglected farm" underneath the seed bed by deep tillage.

Mrs. French made an inspiring and helpful talk that was of especial interest to the women, showing them what they could do to make the grange a more helpful factor in building up rural life.

Mr. Chapman gave a reading of his own works, illustrating it with little stories about the scenes depicted in verse. He told the story of how he wrote his nationally famous poem which ranks high as inspirational verse, and the truth of which is nowhere so well recognized as on the western farm and ranch. He was introduced as managing editor of The Denver Times, but chose to give a literary recital rather than to talk shop. The Grangers want him to feel that they were greatly pleased and that he is welcome to come again.

Mr. Thomas outlined briefly his particular mission this spring; namely, the organization of farm labor, and urged those present to send in their suggestions for the benefit of the war council.

County Agent Tripp gave some hints of the problems that are confronting him in Jefferson county, with its varied agricultural districts, and outlined some of the things he had in mind as a help in improving rural conditions. He is giving especial attention to the school problem.

At the night session the principal feature was a rousing patriotic address by Wayne Williams, a Denver attorney. Music and vaudeville stunts helped to enliven a very successful day's program.

Mrs. Dix of Evergreen gave an excellent monologue, and this was followed by a Hebrew impersonation sketch by Mr. Dix and Mr. McWhinney that brot down the house.

A big class was initiated into the fifth degree. The new lecturer for the Pomona, Mr. F. A. Wells, state organizer, had charge of the program for the first time.

Vernon Grange No. 175 met the first Thursday in February, as is the custom, with one of the members; this time at the home of Brother and Sister Arch Wakefield. As each member brings one or two articles for dinner, a splendid meal was served to about twenty members. After linner the meeting was called to order by the Worthy Master. All officers were present and the general routine of business was carried out. A report of the State Grange session was given and reports and summaries from the state secretary and state business agent were read. Two new members were voted in and given the first and second degree. One new member was given the third and fourth degree. The next meeting will be held with Mr. and Mrs. C. W. Weaver in March.—C. W. Weaver, lecturer, Vernon, colo.

Few Grangers realize that they are members of the strongest farm organization in the United States and an organization that is a power for good during the country's crisis, urging loyalty upon all its membership and advocating aid to the nation in every problem that arises. Colorado Grangers are particularly fortunate in being in a community where the Grange is making exceedingly rapid growth, the membership in this state having more than doubled in a little over two years. Colorado's rate of growth has been third of any state in the Union, being surpassed only by Oklahoma and Ohio.

Dry Farming at 6,500 Feet

I have been a reader of the Farm Life for some time and I think it a great help to all farmers who read it and especially to those who must learn the art of dry farming. I, being one of them, take the liberty to ask some questions, feeling there is no one more able to give correct answers than you.

Am just about to start improving a raw, dry farming proposition with little qualification except determination to succeed coupled with youth and strength.

What are the best crops to raise on new (sod) land in the foothills, altitude 6,500 feet? I want to put in about 25 acres this year.

Would you advise Sudan grass? If so, how close should seeds be in row?

What would be best to raise to get early hog feed?

How will hog millet do for chicken feed, or would you advise something else?

What kind of corn is best for high altitude, and where can I get it?

I thot of raising potatoes, wheat, oats, Sudan grass, Mexican beans, corn, cabbage, rutabaga, turnips, beets, onions, hog millet, carrots, parsnips, pumpkins and general garden. There is a good market here for anything one can raise. Please state date to plant seed of above mentioned and if it is not advisable to try any of the above please tell me. The land is yet unbroken. I know little of farming methods in this state, having come from S. E. Oklahoma.

Your ranch is a little high for Sudan grass, but crops have been made at that altitude. I would try it before planting a large acreage. I should plow the sod as early as possible and thoroly pulverize it by alternate harrowing and disking. If the plow leaves it very rough roll it first. Disk it before plowing, it will break up better and be easier for the horses. All the land you can break and work up before April will be good for corn. The late breaking will do for summer fallow and could be planted to rye or winter wheat in August.

Amber cane sorghum would probably grow better at your altitude than Sudan grass. It all depends on the season; corn is the safest. Sudan grass is planted in rows with a hill of about 3 seeds every 10 inches or so about 3 pounds to the acre. Corn (tested) one in a hill 2 feet apart in the row. The best varieties would be Swadley. White Australian or Parsons' High Altitude.

Corn will feed more pigs per acre than hog millet. The chickens will eat it, but are not fond of it. The best feed for them is wheat.

It would be difficult to raise much of a garden on sod the first year unless the season is wet. Turnips planted about July 4 might make some sort of a crop. Beans and corn are planted about May 15 to June 15. Cabbages, onions and early stuff about April 1.

The soil for a garden should be prepared the year before plowed about 10 inches deep and thoroly fertilized with the dirt dug out of some old corral or leaf mould from some grove.

Dry farming is farming for the future—conserving moisture this year for next years' crops—carrying over moisture from the wet years to save the crops in dry years. This can be done satisfactorily only by deep and thoro work.

Properly speaking, spring crops should be planted on fall plowing and fall crops on spring plowing. Unless you have a reserve of moisture your crops live from shower to shower and if one fails they burn up.—E. R. Parsons.

To Prevent Soil Blowing

Soil blowing is likely to be serious because of the small vegetative growth and the loosening of the soil by alternate freezing and thawing. The surface will begin moving first and if not stopped the wheat will be carried out.

Light applications of straw or manure will prove beneficial on small areas especially likely to be affected. It is desirable to apply this material before the blowing begins.

Cultivating strips three or four feet wide at intervals of two or three rods across will prevent blowing in most cases. These strips should be at right angles to the prevailing direction of the wind. An ordinary corn cultivator or an alfalfa renovator is a satisfactory implement to use in doing this work. The surface should be left rough. If pulverized to dust the loosened soil will blow readily. This would increase the difficulty instead of bringing about the desired beneficial effect.

If the blowing becomes so severe that the cultivated strips will not stop it a lister must be used. The intervals between the listed strips will depend upon the individual case. Strips of two furrows each and two to three rods apart will ordinarily be sufficient.—R. I. Throckmorton, Kansas State Agricultural college.

The Farm Home

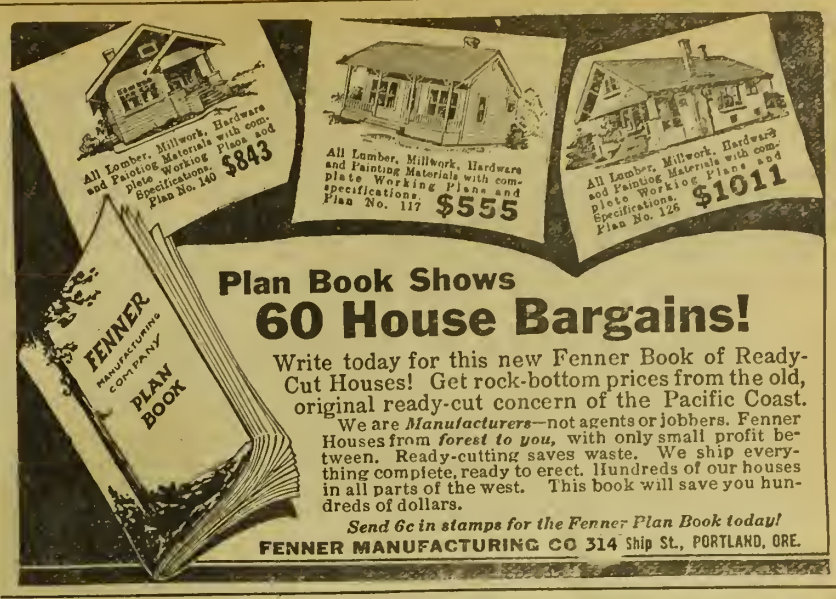
Continued from page 20

money can be raised. The writer hesitates to make wholesale suggestions, for the kind of entertainment or amusement most successful in one locality may prove an utter failure in another.

As both fun and money have been realized from some auction sales, try "The Utility Auction Sale." Deposit all kinds of articles, old and new, little and big, in baskets or barrels—the articles in them warranted to be a family necessity.

Use same method as at a regular auction with the exception that the bidding is "blind," or the packages unopened. Of course, have a bright, clever auctioneer, one full of jokes and small talk. A spirited rivalry can be kept up accompanied with rash bidding, etc.

If the "Necessity" won by one bidder should seem to be more appropriate for another person present, it can be rewrapped and sold again. If any club or community should try this scheme let us hear of how you succeed and tell us of other good times for profit.



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Inquiries and Answers

To what use can I put the numerous flour sacks that collect? We use considerable flour and I have a number on band. How can I remove all lettering from them?—L. T. S., Elwell, Colo.

To remove the lettering, put them on the stove in the boiler in a strong suds, to which has been added a tablespoon of salsoda. It may be found well to change this water a time or two. As the cloth is good and strong and launders easily it may be used to make underwaists for children, also underwear of all kinds. I have a neighbor who uses flour sacks and sugar sacks to make kitchen aprons. We need not mention that they make the best of dish towels, also good bags for straining cheese and jelly.

2. We have been asked for a remedy for a teakettle which has become crusted on the inside. We have read that to boil potato skins in such a kettle will remove the crust. Will our reader please try this and report if it is successful?

3. What is best for covering the old shelves of kitchen pantries or fruit shelves in cellar?—Housekeeper.

In a late exchange we saw the suggestion that table oilcloth is the best for such covering. Cut the oilcloth somewhat wider than the shelf. Make a good flour paste and bringing the oilcloth well over the edge of the shelf paste it under the shelf. When shelves are old and rough the writer has used folded newspaper to pad the boards before covering.

Kitchen and bath room walls are fine covered with oilcloth. If one does not care to cover the whole wall, a width of oilcloth may be used at the lower part and will prove a great protection to plastered walls, is very easily cleaned and will last a long time.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2345—Smart One-Piece Style. Cut in sizes 16, 18 and 20 years. Requires 7¼ yards 36-inch material for 18-year size. Velvet or satin, serge

or gabardine may be selected for this style. It will require little trimming—a touch of color or a bit of embroidery. In front the waist and skirt are combined; at the back the skirt portion is gathered to the waist.

Stack Your Hay The Easiest Way The "Jayhawk"

Stackers and Sweep Rakes

Harvesting hay the Jayhawk way means time, men and money saved. Jayhawk Stackers and Sweep Rakes make it easy to harvest and save every hay crop. Pays for itself the first year. Fully guaranteed. Sold direct at manufacturers price. Write today for free catalog and price list.

F. WYATT MFG. CO. 934 N. 5th ST., SALINA, KANS

Marquis Wheat

The King of all spring wheats. Remarkably early, exceedingly productive, unexcelled in milling quality. A real western wheat. Our seeds are true stock—germination guaranteed.

Gold Seal Seeds

Of all kinds for garden, field and flowers. Particularly adapted for western climates. Sold on positive money-back guarantee. Send for our big free illustrated catalog—it will save you much money.

WESTERN SEED CO.
1425 15th St. Dept. A
Denver, Colo.

$ Dollars for You $

AS OUR REPRESENTATIVE

Here's a chance for some easy money. Represent us. We're financial agents for one of the strongest oil producing companies operating in Oklahoma, Wyoming and Kansas. Two Producing wells—other drilling. The company is backed by such prominent Denver business men as Frank A. Joslin, Wm. R. Dickson, Finley L. MacFarland and others. This stock sells itself. We pay liberal commissions. No investment. Write for particulars.

MEYER & ROOP
Gas & Electric Bldg., Denver, Colo.

$1.29 AND UP A ROLL

Send your next order for roofing to Omaha's fast growing mail-order house. Save money and get quicker and better service. We sell direct at wholesale prices a full line of roofing, fencing, paints, etc. Get our new big FREE Book of Bargains, also 48-page Grocery list. Address

GENERAL MERCANTILE CO.
"The Great Mail Order House."
727 So. 8th Street Omaha, Nebr.

2344—Waist. 2343—Skirt. Waist is cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt in sizes 22, 24, 26, 28, 30, 32 and 34 inches waist measure. As here shown, navy blue serge was used for the skirt and white crepe with light blue trimming for the waist. The skirt model is very attractive and the waist very charming with its soft tie collar.

2338—Simple Style, Easy to Develop. Cut in sizes 2, 4, 6 and 8 years. Requires 3 yards 36-inch material for 6-year size. This model is good for cashmere, serge, albatross, satin, silk and all wash fabrics. The front is closed over a stay, with lacing or buttons.

2346—Simple Set of Coat and Cap. Cut in sizes 6 months, 1 year, 2 and 4 years. Requires 3¾ yards 27-inch material for the coat and ¾ yard for the cap. Eiderdown, bedford cord, cashmere, serge, poplin, velvet, corduroy, faille, taffeta and cheviot may be used for the coat and the cap may be of the same material or of silk, batiste, lawn or mull. The cape may be omitted.

Farmers' and Stockmens' Exchange

Advertisements will be inserted in this department for 5c per word; four or more insertions, 4c a word each insertion. Remittances can be made by postoffice money order or personal check. Advertisements are set in uniform style, no display type or illustrations admitted under any circumstances. Every figure and initial counts as one word. Guaranteed circulation over 50,000 copies each issue. WESTERN FARM LIFE is issued semi-monthly the first and fifteenth of each month. Advertising copy for this department must reach us ten days before date of issue. It carries the most classified advertising because it gives you best results. Send us in a trial advertisement. Write for proof showing how these columns pay advertisers.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

LEGHORNS

SINGLE-COMB BROWN LEGHORNS — EGGS Prepared. 100, $6.00; setting, $1.50.

S. C. BUFF LEGHORNS, HEASLEY'S EGG Basket strain. Mrs. J. W. Kyffin, Fowler, Colo.

L. D. GOOCH, SEWARD, KAN., WILL SELL R. C. Brown Leghorn cockerels $2.00 each if taken soon.

L. B. RICKETTS, BREEDER OF PRIZE WINning Single Comb White Leghorns, Greensburg, Kans.

PURE BRED ROSE COMB BROWN LEGHORN eggs, $6.00 per 100. Mrs. Art Johnston, Concordia, Kans.

S. C. BROWN LEGHORNS—SETTING EGGS, $8.00 hundred; $1.25 setting. W. L. White, Altamont, Kan.

SINGLE-COMB BROWN LEGHORNS — EGGS prepaid. 100, $6.00; setting, $1.50. Chas. Bowlin, Olivet, Kans.

SINGLE COMB BROWN LEGHORNS, WINNERS of the blue in four states. Eggs $6.50 per 100. Wm. Roof, Maize, Kans.

SINGLE COMB WHITE LEGHORN BABY chicks, 15 cents each. Orders booked now. Mrs. Anna Hege, Sedgwick, Kans.

SINGLE-COMB BROWN LEGHORNS. BEST quality. Heavy winter laying strain. Free circular. Mrs. D. A. Wohler, Hillsboro, Kans.

BARRON S. C. WHITE LEGHORNS. BABY chicks. Hatching eggs. Satisfaction guaranteed. F. B. Morger, Fowler, Colo., R. No. 1.

CHOICE S. C. W. LEGHORN COCKERELS—eggs and chicks in season, from extra layers. Mrs. Geo. W. Stephens, R. No. 4, Lexington, Neb.

HEWITT'S S. C. BUFF LEGHORNS—GREATest layers on earth. Eggs, $2 per 15; $5 per 50; $7.50 per 100. Mrs. Philo J. Hewitt, Lexington, Neb.

SINGLE COMB WHITE LEGHORNS; HEAVY winter layers; 13 years in the business; hatching eggs, day-old chicks. Riverside Poultry Farm, H. D. Walker, La Junta, Colo.

EXCELSIOR FARM SINGLE COMB WHITE Leghorns. Yesterlaid-young strain cockerels, $2; 3 for $5. Eggs, $5 per 100; baby chicks, 12 cents. Mrs. C. C. Cole, Levant, Kans.

BUFF LEGHORNS—BEST LAYERS ON EARTH Hatching eggs from Hoganized yearlings, $1.50 setting. Chickens hatched in April will lay in October. Champney, 25 South Logan, Denver.

PURE BLOOD SINGLE COMB BROWN LEGhorns. Setting eggs from healthy range flock, $1.25 per 15, $6 per hundred, prepaid. Order today. C. O. Johnson, Boyero, Colo.

UNIVERSITY PARK POULTRY RANCH—BABY chicks and hatching eggs. Thorobred Single Comb White Leghorns exclusively. Write for circular. 2520 South Clayton, Denver, Colo.

HAINES HUSTLERS—EGG-BRED PEDIGREED Single Comb Buff Leghorn; strong winners at Gold Special and Kansas State Federation shows; eggs from exhibition pens and range flock; cockerels from 200-egg hens. Pearl Haines, Rosalia, Kan.

PLYMOUTH ROCKS

WEIGHER-LAYER BARRED ROCK COCKERELS $3.00 to $5.00. C. F. Fickel, Earlton, Kan.

BARRED ROCKS. BABY CHICKS. HATCHing eggs. F. B. Morger, Route 1, Fowler, Colo.

BARRED ROCK COCKERELS. BIG BONED. Egg strain, $3.00. Mrs. A. E. Huff, Lancaster, Kans.

THOROBRED BARRED ROCK COCKERELS, fine stock. Ship anywhere. 3209 Arapahoe Street, Denver.

PARTRIDGE PLYMOUTH ROCK EGGS. MY birds are better than ever. Jno. W. Norton, Talmage, Neb.

CHOICE BARRED ROCK EGGS FROM LARGE, vigorous stock, $10 per hundred. Fertility guaranteed. Geo. Franklin, Axtell, Neb.

RINGLET BARRED ROCK EGGS AND DAY-OLD chicks. Write for mating list and prices. Mrs. C. N. Bailey, Lyndon, Kans.

WINTER LAYING STRAIN BARRED ROCKS—Cockerels. Eggs, $5—100, $1—15. Valuable circular free. O. E. Skinner, Columbus, Kan.

BARRED PLYMOUTH ROCKS—EGGS FOR hatching from four selected pens, both matings and range flock. Incubator eggs, $5.00 per 100. Send for mating list. Chester Blunt, Route 1, Greeley, Colo.

PARTRIDGE PLYMOUTH ROCKS — THE beauty and utility breed; stock for sale that are prize-winners. Pullets, $2; cockerels, $3 to $5 each. Eggs for hatching, $1.50 and $3 for 15 eggs. Satisfaction guaranteed. A. R. Stover, Manzanola, Kans.

BARRED ROCKS. BIG WINNERS AT STATE show, Wichita, 1918. Excellent winter layers. Large handsome birds with narrow fancy barring to skin. A few cockerels yet. $5.00 each. Ship on approval. Send for mating list describing birds and choice pens mated for the egg trade. Geo. Sims, Leitoy, Kans.

ORPINGTONS

SINGLE-COMB BUFF ORPINGTON COCKERels; best breeding and great size, $5.00 each. Sunflower Ranch, Ottawa, Kan.

S. C. BUFF ORPINGTONS—TRAPNESTED layers, prize winners at leading Colorado shows. Eggs for hatching. Circular free. F. M. Shank, Route No. 2, La Junta, Colo.

WYANDOTTES

WHITE WYANDOTTE EGGS FROM TRAPnested stock. Mary M. Wright, Route 2, Boulder, Colo.

CHOICE WHITE WYANDOTTE EGGS AND chicks; good laying strain. Eunice E. Stephens, Lexington, Neb., R. No. 4.

GODSEY'S PARTRIDGE WYANDOTTES—beauty breed. Look up what they won; $2, $3 and $5 per 15 eggs. Charles Godsey, Yuma, Colo.

BUFF WYANDOTTES—TOP NOTCH LAYERS. Missouri egg contest stock. Chicago, Denver Stock Show and other winnings. Stock and eggs. Write for particulars. Lloyd E. Jones, 2227 Mapleton Ave., Boulder, Colo.

RHODE ISLAND REDS

THOROBRED ROSE COMB RHODE ISLAND Red cockerels cheap. Claude Musselman, Lyons, Nebr.

SINGLE-COMB COCKERELS, SCORE 88 TO 92, by Scott. Write for prices. S. P. Childs, Herington, Kans.

FREE—MATING LIST READY. ISRAEL'S Quality Plus Single Comb Rhode Island Reds. Get it. Lou R. Israel, Osceola, Nebr.

HARRISON'S NON-SITTING SINGLE COMB Reds. (250 egg strain). Mating list for customers. Robert Harrison, Lincoln, Nebr.

LOWER'S POULTRY FARM, ARVADA, COLO., is the oldest and largest breder of reliable Single Comb Reds in the West. Send for circular.

EGGS FOR HATCHING—ROSE COMB REDS exclusively; prize-winning, heavy laying strain. Write for mating list. E. A. Miller, Alma, Nebr.

ROSE COMB REDS, 100 EGGS, $6.00 AND $8.00. S. C. Brown Leghorns. 100 eggs, $6.00 and $7.00. L. D. Speenburg, Belleville, Kans.

COLUMBINE BABY CHICK CO.—WE ARE booking orders for early delivery of baby chicks, Rhode Island Reds, Barred Rocks, White Leghorns, etc., etc. Price, $2.50 per 12, $18 per 100. We ship everywhere and guarantee live delivery. Book on chicken raising, treatment and care free with all orders. For selected stock pullets and cockerels, write for price list. Box 74, Denver.

PET STOCK

COLLIE DOGS, ALL AGES, MATRONS BRED and open stud dogs and puppies. Frank Davis and Sons, Holbrook, Nebr.

INCUBATORS

IT'S GOOD BIG HATCHES YOU WANT. DENver Incubators are built and tested for this dry climate and positively hatch big, strong chicks. Get our free catalog. Low prices, with freight prepaid. Coal-heated colony brooders $17.50. Our lamp-heated brooders can't be beat. For Sale—Baby chicks and hatching eggs from Hoganized flocks that will make you money. Selected from the best in Colorado. Denver Incubator Co., 175 South Broadway, Denver, Colo.

NURSERY STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

WHITE DENT SEED CORN FOR SALE. CHAS. T. Lewis, Keota, Colo.

CHOICE WHITE SWEET CLOVER AND ALfalfa at farmers' prices. J. M. Lewis, Virgil, Kan.

SAN LUIS SEED PEAS—CARLOAD OR LOCAL shipments. Prices and samples gladly submitted. A. A. Salazar & Son, San Luis, Colo.

GUARANTEED EVERBEARING STRAWBERRY plants. Will produce fruit the first year. Progressive, $1.25 per 100. Superb, $1.00 per 100. Not prepaid. Ed Keehn, Littleton, Colo.

SWAMPED WITH BABY CHICK ORDERS

Read What a Little Classified Ad Did for Mr. Jandebeur

"I wish to thank you for what my little ad in the Western Farm Life has done. Ninety per cent of my orders have come from it and it sure has me swamped with baby chick orders.—They all say, "saw your ad in WESTERN FARM LIFE.

R. H. JANDEBEUR, Alma, Nebr."

ROSE COMB R. I. REDS. DARK BRILLIANT. Baby chicks. Hatching eggs. Satisfaction guaranteed. F. B. Morger, Route 1, Fowler, Colo.

CORNISH

QUALITY DARK CORNISH—MATING LIST. R. H. Jandebueur, Alma, Neb.

DARK CORNISH FOR SALE—MATED TRIOS, pens and single birds; big winners at all Denver shows. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

MINORCAS

SINGLE COMB BLACK MINORCAS. I HAVE a fine lot of cockerels for sale. Also year-old hens for mating, eggs and baby chicks. Reasonable. Write for prices. H. R. Suydam, 4500 Bryant St., Denver, Colo.

SUSSEX

RED SUSSEX—LIMITED NUMBER EGGS AND few females for sale. Won at Chicago Coliseum in 1916 and 1917. Rees Evans, Box 29, Ardmore, Okla.

BRAHMAS

THOROBRED LIGHT BRAHMAS. SETTINGS for sale. E. Grosser, 2240 Perry St., Denver.

ANCONAS

ANCONA EGGS—$1, $2, $6 PER 100. EXclusive Ancona farm. Mrs. D. S. Davis, Littleton, Colo.

LANGSHANS

EGGS, BEST LANGSHANS. John Lovette, Mullinville, Kans.

SEVERAL VARIETIES

S. C. REDS, WYMORE AND HICKMAN WINners. Stanley Kaura, Wymore, Nebr.

HALL'S S. C. REDS AND WHITE ROCKS. Big stock show winners. Eggs for hatching, reasonable. Liston L. Hall, Gering, Nebr.

WANTED, EGGS—BARRED ROCKS, WHITE Rocks, Rhode Island Reds, White Wyandottes. Highest cash price paid. Wm. H. Walter, 176 S. Broadway, Denver, Colo.

WHITE WYANDOTTES AND WHITE LEGhorns. The strains that won first place at the three leading egg-laying contests. Lewis Jones, 2327 Twenty-first Street, Boulder, Colo.

FOR SALE, EGGS—EGGS FROM ALL KINDS of purebred poultry; three kinds of geese, seven kinds of ducks, pearl and white guineas, bantams, fancy pigeons, rabbits, guinea pigs, canaries. Write wants. D. L. Bruen, Platte Center, Neb.

BABY CHIX

BABY CHICKS—YOU BUY THE BEST, GUARanteed alive, at Colwell's Hatchery, Smith Center, Kan. Shipped anywhere, 12 cents.

KANSAS LARGEST POULTRY FARM. HATCHing eggs, baby chicks. Free egg circular. Write today for complete list twenty best varieties. Modlin's Poultry Farm, Topeka, Kans.

COLUMBIA HATCHERY—ALL LEADING VArieties of baby chickens, cockerels, turkey gobblers and hatching eggs in incubator lots. We ship to all parts of Colorado, Wyoming and New Mexico and guarantee live delivery to your express office. Write for our price list and particulars. P. O. Box 1102, Denver.

BUY TREES FOR YOUR ORCHARD OR GROVE and have two and three years to pay at the same time. All stock that fails to grow replaced free. Address Weldon Valley Adv. Co., Weldona, Colo.

SEND $3 AND WE WILL SEND YOU 250 SENator Dunlap, 100 Progressive Everbearing Strawberry Plants, and 12 Concord Grapes, 2-year (postage prepaid). Catalog free. Separately, $1 each. Welch Nursery, Shenandoah, Iowa.

EVERBEARING STRAWBERRY PLANTS; PROgressive variety; flavor, heavy bearing qualities and ability to bear in cold weather makes them best small fruit for mountain states. Price $2.00 per 100, $5.00 for 300, $15 per 1,000; prepaid. J. L. Salladay, Arvada, Colo.

ALFALFA

FOR SALE—ONE TO TEN CARS ALFALFA. Save you several dollars per ton. W. C. Loney, Greeley, Colo.

LUMBER

LUMBER—POSTS. WRITE US ABOUT PRICES delivered your station. Send list for estimate. Pay after unloading. Kirk Company, Box 1188-S, Tacoma, Wash.

TRACTORS

12-20 EMERSON KEROSENE TRACTOR, WITH plow outfit; almost new; terms. H. A. Todd, Hatod, N. M.

TRACTOR FOR SALE—EMERSON-BRANTINGham Big Four 20-35. Engine lift four 14-inch plows. In A-1 condition. Can make immediate delivery. Heavy plowing all done. Do not need it longer. Will sell for half price of a new outfit. Address E. W. Jackson, 1453 Birch St., Denver. Phone York 1942W.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's, the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

TANNING

LET US TAN YOUR HIDE—COW, HORSE OR calf skins for coat or robe. Catalog on request. The Crosby-Frisian Fur Co., Rochester, N. Y.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

HELP WANTED

WANTED—EXPERIENCED FARMERS TO RENT farms under good irrigation system at Rock River, Wyo. All farms have sufficient acreage in alfalfa and good buildings; close to good school and adjoining free range. For further information write H. W. Brettell, Rock River, Wyo.

WANTED IMMEDIATELY—MEN, WOMEN, 18 or over, U. S. Government positions. Hundreds clerical positions obtainable; $90 month; quick increase; easy work. Write immediately for list positions. Franklin Institute, Dept. N-174, Rochester, N. Y.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Held, Sterling, Colo.

FOR SALE — 21 REGISTERED YEARLING Hereford heifers, bred very strong in Anxiety blood lines. Price $175 per head. J. O. D. Ranch, Aroya, Colo.

HOGS

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC-JERSEY HOGS—LARGE, BIG-BONED, registered and immune. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

YOUR OPPORTUNITY—TO BUY A DUROCJersey herd boar, sired by Colorado Golden Model, or, Colorado Good E. Nuff. Have 10 choice animals to select from. Priced to move quick. Address City View Farm, Box 718, Pueblo, Colo.

REGISTERED BIG TYPE POLAND CHINA boar. Weight, about 500 in moderate flesh. Long, heavy-honed, good feet, head, ears and coat. Black with white markings. Bred by a veteran breeder. Price, $100 now. B. F. Sawhill, Seibert, Colo.

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

GOVERNMENT LANDS—BOOKLET. JOSEPH Clark, Sacramento, Cal.

I WANT TO HEAR FROM OWNER OF FARM OR unimproved land for sale. Mrs. W. Booth, Pulaski, Iowa.

WANTED—TO HEAR FROM OWNER OF FARM or unimproved land for sale. O. K. Hawley, Baldwin, Wis.

WANTED—TO HEAR FROM OWNER OF GOOD farm for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

FOR SALE—640 ACRES OF THE BEST IMproved dry land in Douglas Co., cheap, with or without stock and implements. G. Gerber, 417 28th St., Denver, Colo.

I HAVE SOME CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give full description, location and cash price. James P. White, New Franklin, Mo.

FOR SALE—280 ACRES IRRIGATED RANCH, 120 acres under cultivation. Close to city of Salida, runs along county and railroad, five minutes to school house, good grazing lands. Owner, Jno. Drohnick, Salida, Colorado. R. F. D. Box 73.

IRRIGATED FARM FOR SALE—225 ACRES five miles from Denver Stockyards, one mile from railroad station. First-class water right, excellent improvements; liberal terms. J. D. Hitch, 525 Cooper Bldg., Denver.

HALF SECTION DEEDED, FENCED, FOUR miles to railroad station; 120 acres cultivated; will cut 70 tons native hay; abundance of seepage water; excellent farm for corn, beans and wheat; owner drafted; must sell. Write for full particulars. C. K. O'Byrne, 326 Symes Bldg., Denver, Colo.

600 ACRES NON-IRRIGATED LAND 12 MILES from Denver on Union Pacific, station on farm. High state of cultivation, 300 acres in winter wheat and 300 acres fall plowed. Abundant supply of well water with Springfield Pressure Tank System. O. E. Le Fevre, 1311 York Street, Denver.

HAY RANCH—PRODUCES 500 TONS SOUTH Park hay; deeded, 72 feet decreed water rights, improvements, adjacent railroad, town and forest reserve. Ideal for hay or stock ranch. Yearly income about $13,000; must be sold immediately. C. K. O'Byrne, 326 Symes Bldg., Denver.

WE FORECLOSED ON 600-ACRE RANCH. Western Slope, half agricultural, half range. Good water rights, buildings, eight miles from market, adjoining United States Forest Range. Will sell reasonably, part cash, terms on balance. Splendid proposition. Interstate Trust Company, 15th and Stout, Denver, Colo.

MISCELLANEOUS

FOR SALE OR TRADE—25-45 INTERNAtional Tractor and 32-62 Baker Separator. Robt. D. Albrecht, Otis, Colo.

FOR SALE OR WOULD TRADE FOR CATTLE or range horses—One Reg. French Draft Stallion and one Mammoth Jack. Apply to R. Pryor, Box 272, Las Animas, Colo.

Irish Potatoes the Year Around

I just finished reading "the Branding Iron" column and note in particular the last article of the February 1st issue in reference to "Irish Potatoes on the table all year around."

Now what about it. There were several million bushels raised in Colorado last year of which approximately one-fourth were frozen in the ground, most of which were left undug. They will still make the best of hog feed if dug and cooked.

I personally dug (and am still feeding them), over 700 bushels that would otherwise have gone to waste. I feed them to my horses, cattle and hogs, while the wife feeds them to the dogs, cats, and poultry. In addition to that we ate the unfrozen portion of all we needed.

But here is the point. There is not a drying plant in eastern Colorado or anywhere else in the state, so far as I can ascertain. Why not put all the old threshing boilers in the state to drying them so they can be conserved for future use? I have an old 18 h. p. internal flue boiler and a 30 gallon copper steam candy kettle for cooling which would only need drum and also a set of rollers for the washing to be ready for use. Where can I get these things at reasonable prices? There are probably a dozen steam threshing outfits in the country that could likewise be converted into small plants of this kind. They could be supervised by some competent man to prevent loss. —C. E. Musser, Clifford, Colo.

Somebody please tell Mr. Musser where to get the rollers and drum.

Sheep Needed by the Nation

The wool from twenty sheep is used to make the clothing and other equipment of one soldier. Six farms out of every seven in the United States have no sheep. Sheep can be produced profitably on almost every farm. What about your farm? If you keep twenty sheep you are outfitting a soldier who is risking his life for your freedom. If you have a flock of 200 sheep you will clothe ten men who are fighting in France. And if you have no sheep you are failing to do all that is in your power to help win the war.

Get some sheep. They make both meat and wool—and both are badly needed. By proper management they can be produced on the average farm without entailing a reduction of other live stock, and without interfering with any other agricultural plans.

More than the entire wool production of the United States will be used for our armies. Where will we get the wool to makes clothes for the civilians? Every ship is needed to transport men and supplies from America to Europe. Unless the necessity is extreme we can't spare ships for long voyages to Australia, South Africa and South America to get wool. Furthermore, those countries have not increased their production. The problem must be solved by the production of more sheep on farms thruout the United States. We must produce our wool at home instead of hauling it from the other side of the world. We can do that if the six farms out of seven that have not kept sheep will begin to build up flocks in proportion to the size of the farm—at the ratio of one sheep to each three acres. We can do it if you will put some sheep on your farm.

You will be helping produce clothing and meat for our soldiers and yourself. You will be helping win the war. You will be making more money from your farm.

Sheep, in proportion to the value of their products, are produced more economically on the farm than any other live stock; the feed and labor requirements are less. They fit in with practically every kind of farming; get much of their subsistence from forage, from grazing weeds and grass that would not support other stock. They eat almost no feed that has a value as human food, and need less grain than other animals. They add materially to the farm revenue but add very little, relatively, to the farm expense.—U. S. Dept. of Agriculture.

Regarding the Holsteins

In your January 1st issue I read an article in regard to changing the name of Holsteins in which I was quite interested. I am a native of the very heart of the country from which this valuable breed of dairy cattle originated, being from the province of Friesland, Holland. I was born in Harlingen. This town is located on the east side of the Zuidersee, which in the Holland language means south sea, which is a neck of the North Sea, I should judge, about the size of Lake Michigan. Leeuwarden is the capital of this province, where I have yet many relatives, some very rich. The country lies about 15 or 20 feet below sea level, quite different from Colorado, and its green pastures are strewn with the black and white cattle. This land is well drained and blessed with plenty of showers, and yet you never see the country anywhere covered with water. Fences in the pastures are not necessary, for around every field and pasture are canals which are crossed with bridges which are shut with gates.

Roadways are all graded high and graveled and hard as brick and smooth, and lined with beautiful trees on both sides. I think that if the name be changed at all from Holstein-Friesian to give the country credit where the cattle originated, they should call them Holland Friesland or Holland Friesian cattle. I could sit here and write you a book on this splendid dairy breed and country and the way dairying is carried on there.—H. J. Tolsma.

Swellings on Cow's Jaw

I have a four-year-old black cow that has always been very healthy and always kept fat. She was one of the healthiest cows in our herd. A year ago we noticed a lump coming on her jaw on the right side of her face. It kept getting larger all the time until she could hardly open her mouth. It got so big that it had to be lanced. The cow could not open her mouth wide enough to put her tongue out even then. She got awful thin and could eat nothing but some boiled grain. With summer coming on she got a little better. She stayed thin all summer and cannot open her mouth but about an inch and a half, nor stick her tongue out more than an inch. This lump disappeared and left no sign. About a week ago we noticed that she was getting another lump. This one was on the right side and on the end of the jaw bone. We rubbed it with linament and it broke. White and yellow, nasty smelling matter came from it. But still the cow cannot open her mouth more than an inch and a half. She has a good appetite now. She cannot eat enough to keep in good shape as she can't open her mouth nor stick out her tongue. Can you tell me what is the matter with the cow? Could it be that her jaw bone was broken at one time or something of this sort?—E. L., Elbert County, Colo.

The cow's jaw might have been broken, possibly from the kick of a horse. Again this condition might be caused from eating foxtail or barley beard, which is a very common condition among cattle at this time. The awns of the foxtail work through from the mouth into the soft tissues about the face and throat, causing large swellings which usually suppurate, but cause much difficulty in breathing, or in moving the jaws in mastication. There are fistulous tracts connecting the mouth with the external opening. These swellings usually contain pus, and it is necessary to open them freely to allow the escape of pus and to treat the fistulous tracts, which are usually present. My assumption may be wrong, but I strongly suspect that foxtail is responsible for this condition of your cows.—Dr. G. H. Glover, Colorado Agricultural College.

With lamb and chicken, and Belgian hare and friend fish on the meatless menus, it beats the band what a long face some people can put on when they cuss Hoover.

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This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died—FIELD BOHART, Colorado Springs, Colo.

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Majesty Oxford Combination, half brother to the grand champion at Columbus, at head of herd.
A September calf, by Count Majesty, out of Imp. Cowslip's Sweet Bread, an imported cow; a nice straight calf, solid color and good, at right price.
A spring boar, by Proud Chief Jr., out of Dixie Girl, by Lee's Defender, at right price.
Also a few September pigs out of a daughter of Model Critic, by a son of Grand Model. Prices right.
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Our herd boar is Orion Cherry King 15th, the Senior Champion of the Denver Show, 1918.
Did you see our barrow, who was made Grand Champion Barrow over all breeds and sold for 50c per lb., the world's record price ,and afterwards dressed cold 91 per cent, another world's record.
Just such stock we can sell you in registered boars and gilts. Write us for prices.
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JERSEY BULL We have for sale a Jersey bull calf, born September 19, 1917. He is out of Golden Rod's Dahlia, a very large cow of good type, who is the dam of the heifer winning Junior Championship at Denver two years ago. The bull calf is sired by Minnie's Sans Aloi, a son of Financial Countess, former world's record cow.
We now have a new Jersey herd sire, and everyone interested in Jerseys should look for his get next year. He is sired by a son of Gamboge Knight, and is out of a Show cow with a record of 839.9 lbs. of butter in a year.
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Colorado Agricultural College Fort Collins, Colorado

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50 PER CENT OVERSIZE in all vital parts — crank-shaft, axles, driving shafts, gears, frame, wheels, tires.

NET RESULT—Reo upkeep equalled by no other 7-passenger car.

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WE ARE NOT THINKING of the price—for that isn't the primary consideration in the selection of a car.

YOU KNOW YOUR OWN NEEDS—whether a five passenger car is sufficient, or if you really need, at times, room for more.

AND YOU KNOW better than anyone else can tell you, what your price limit is.

AND SURELY AT ITS PRICE this Reo Six is the greatest value obtainable in a car of established reputation.

AND REO REPUTATION is second to none.

WHEN WE SAY "Here is a seven-passenger Six that you can afford," we are thinking of the same item that you, an experienced motorist, are considering—

NAMELY—UPKEEP. That is the first thing to consider in the selection of an automobile.

CERTAINLY YOU CAN afford to own a seven-passenger car—and you can treat yourself to the luxury of a sweet-running, silent Six—if you can feel that not only in first cost but also in cost of upkeep it will be well within your means and accord with your ideas.

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HE WILL TELL YOU that, having compared notes with friends who own and drive other makes of cars—fours as well as sixes—of the same passenger capacity, he has never found one that compared with his Reo Six in low cost of upkeep.

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FRANKLY WE DON'T believe that record can be equalled by any other seven-passenger car on earth.

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COST OF UPKEEP is always uppermost in the minds of Reo engineers, when designing and when specifying materials. And since the same desire is uppermost in the minds of the most experienced buyers—we meet on a common ground.

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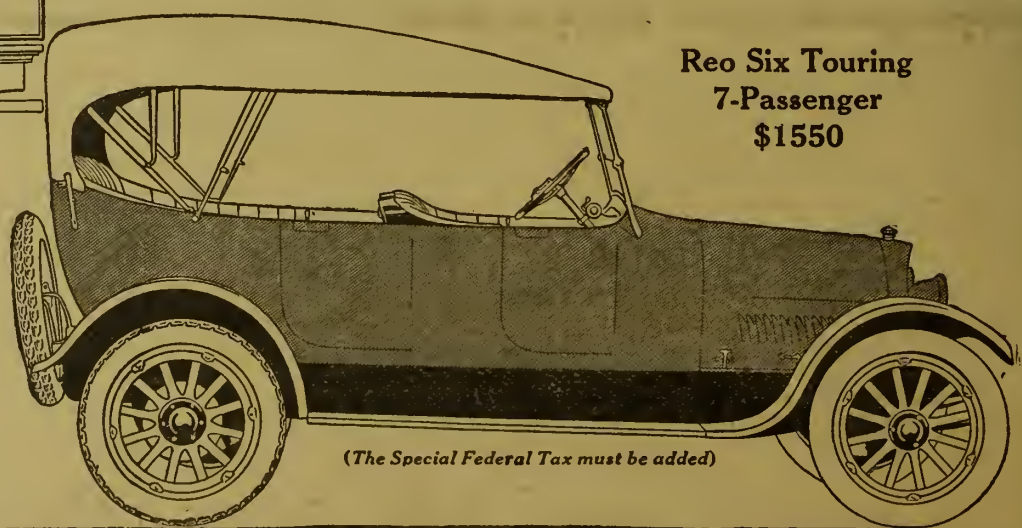

Reo Six Touring 7-Passenger $1550

(The Special Federal Tax must be added)

Western Farm Life

Vol. XX Denver, Colorado, April 1, 1918 Semi-Monthly

Concrete Highway Between Denver and Golden

See Article Page 5

Her Boy *is* "Over There"

She has given her all. With a proud heart and a firm smile she has made the supreme sacrifice of motherhood — her son. Her patriotism, her loyalty cannot be measured by mere dollars—she has given of her heart's blood, of her very soul.

And you are but asked to lend! If you *gave* every dollar that you have and hope to have, your sacrifice would be as nothing to hers. But you are asked only to lend, to *invest* in the best security in the world.

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A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, APRIL 1, 1918 | Number 7

At Left is Frank Little Leading the Holstein Cow That Won the Grand Championship Cup. At Right is Queenie, J. W. Purvis' Guernsey, That Won the Butterfat Test

Lively Competition At the Johnstown Dairy Show

WHAT a good community fair will do for farmers is demonstrated by the dairy show held every spring at Johnstown, Colo. This year's exhibition of milk cows of the three leading breeds, Holsteins, Jerseys and Guernseys, indicated considerable improvement over the previous showing. There were more and better cows and more interest on the part of cow owners in the judging of the stock.

Nearly $600 in cash prizes was distributed among the winning farmers, and altho the competition was close and spirited, the utmost good feeling prevailed. The men who were beaten will be back next year determined to get into the money. Prizes are made sufficiently attractive to get a strong representation from all breeds. The cost of fitting animals for a local show is small. The herds are driven in from the surrounding farms in the morning and home again in the afternoon, so there is no excuse for failing to show good animals.

Johnstown dairy farmers conduct their operations on high-priced irrigated land. Some consider it a side line along with beet or grain farming, but with most of them it has become the important feature of operations, mainly because it is milk that keeps the money coming in a steady stream the year round. Alfalfa is the foundation of the ration with corn for silage and beet tops in the fall.

The condensery affords a constant and unlimited market for whole milk and the management of the institution is behind the dairy show, to which only animals owned by condensery patrons are eligible. Working with Gilbert Landell, manager of the Johnstown Condensery, in promoting the industry, are W. T. Letford and T. H. Hill, officers of the First National bank of Johnstown. This institution makes a specialty of dairy loans, advancing money to farmers who wish to buy good cows and assisting them in selecting the animals. With this financial backing a prosperous district has been developed. The farmers have found the cows not only very profitable in direct revenue from milk, but of inestimable value in producing fertilizer, which enables them to get larger crops of beets and grain.

Frank Little walked away with the T. M. Callahan cup, awarded to the grand champion cow of the show, the money going to a Holstein. M. E. Penrose of Denver was the judge, and in the championship competition he was confronted with one of each of the three breeds. The Jersey was eliminated because of under size, and the judge said it was a toss-up between the Guernsey and the Holstein, but that he would give it to the black and white on constitution.

The Guernsey breed won in the butterfat test, this honor going to J. W. Purvis' Queenie (10460), a beautiful specimen of the breed, with a record of 483.66 pounds of butterfat in the year. Purvis also got second in this class, with Goldie (9516), with a record of 464.67 pounds, and third prize went to Sid Gray on a dandy good Holstein with a record of 449.60 pounds.

Ninety animals were shown, coming from sixteen herds, and thirteen of the owners were in the money. The Purvis herd of Guernseys pulled down the largest amount of cash, $181, with J. D. Pancake's Jerseys second at $121.

In previous years a free lunch was a feature of the show, but this year the exhibition was put strictly on its merits, there being no side attractions to pull a crowd. The result more than satisfied exhibitors and spectators, the attendance being all that could be desired and the interest in the judging, and the dairy talks that followed, being greater than at any previous show. The educational value of the show to the Johnstown dairy farmers is beyond question. It serves to stimulate interest in purebred animals that deliver the goods, and gives the farmers a chance for comparisons and discussions of breeds and milk and butterfat records that are productive of good to all cow owners.

The Johnstown Cow Testing association has been a big factor in advancing the industry in the district during the past year. Cow owners are finding out that the scale of points on the score card is not the sum of the knowledge they must possess in order to form proper judgment of their animals; they are learning that the standard applied in the testing association is, after all, the one that gets the money. The official tester is Ray Curtis, whose work is giving splendid satisfaction.

Several of the big dairy breeders of the state were at the show, including such men as Carlos Hall of Holstein fame, A. M. McClenahan, the Jersey breeder, and H. D. Parker, the king bee among western Guernsey men.

State Dairy Commissioner Morton and Deputy Commissioner McCann were there, Prof. Morton delivering the principal address at the conclusion of the judging. Following is a complete list of awards:

PURE BRED BULLS

(3 years and over.)

Holstein—S. P. Crowley, first. Guernsey—J. W. Purvis, first. Jersey—J. D. Pancake, first.

(Under 3 and over 2 years.)

Holstein—Sid Gray, first; Lohry & Wailes, second.

(Under 2 and over 1 year.)

Holstein—Frank Darlington, first; Frank Little, second.

(Under 1 year.)

Holstein—W. A. Purvis, first; Lohry & Wailes, second. Guernsey—E. J. Bender, first; J. W. Purvis, second.

PURE BRED COWS

(Over three years.)

Holstein—Frank Little, first; W. A. Purvis, second. Guerney—J. W. Purvis, first. Jersey—J. D. Pancake, first; J. D. Pancake, second.

(Under 3, over 1 year.)

Holstein—Sid Gray, first; Frank Little, second. Guernsey—J. W. Purvis, first; J. W. Purvis, second. Jersey—J. D. Pancake, first; J. D. Pancake, second.

(Under 1 year.)

Holstein—W. A. Purvis, first; Sid Gray, second. Guernsey—J. W. Purvis, first. Jersey—J. D. Pancake, first; J. D. Pancake, second.

PURE BRED HERD

(Bull, cow and calf)

Holstein—W. A. Purvis, first; Frank Little, second. Guernsey—J. W. Purvis, first. Jersey—J. D. Pancake, first.

GRADE COWS

(3 years or over)

Holstein—Ralph Harris, first; S. P. Crowley, second. Guernsey—J. W. Pur-

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At Left is Cecil Little, Age 5 Years, the Youngest Exhibitor in the Show, Leading a second Prize Winner in the Holstein Calf Class. At Right is shown a General View of the Judging, With Mike Penrose Passing on the Merits of the Cattle

Conservation of Lamb Crop on Western Ranches

WOOL SHORTAGE FORCES BETTER METHODS OF SHEEP RAISING

This is the first of a series of articles on sheep raising, by Prof. Charles I. Bray of the animal husbandry department of Colorado Agricultural college, who has been making a special study of the subject on western farms and ranches. These articles are written with especial reference to the world wide wool shortage, due to war demands. It is a part of the program of Western Farm Life, co-operating with the government in showing ways and means of increasing production of everything that goes into the support of the men under arms. —The Editor.

CHARLES I. BRAY

A Modern Lambing Shed Showing Early Lamb Crop on Ranch of Bagley & Wagoner, Near Olathe, Colo. (Photo Taken February 23, 1918.)

IN spite of the fact that fat lambs are not proving as profitable at present as might be desired by the sheep men of Colorado, America is going to need every sheep that can be raised before the present year is closed. While there will probably be an abundance of meat for some time to come we are exceedingly short of wool. Even in peace times America only produces half the wool she requires. With most of our outside supplies cut off, and with the increased demand for wood for uniforms, Red Cross supplies, etc., we are likely to face a wool famine much sooner than a shortage of meat. Every lamb saved means not only 25 to 30 lbs. of meat saved, but 5 or 6 lbs. of wool. Colorado alone has practically a million and a half breeding ewes. If the lamb crop can be increased 10 per cent that would mean at least 100,000 more lambs to come off the ranges this fall.

This means that at least 500,000 lbs. more wool and 2,500,000 lbs. more mutton could be produced in Colorado alone in excess of the normal quantity This would not only benefit the nation, but would be practically clear profit to the sheep growers of the state, since the breeding flock has to be carried through the winter anyway, and the lambs are raised during the summer months on cheap grazing.

One cause of the small lamb crop is poor feeding of the ewes before lambing. We asked a San Luis Valley sheep man recently what the percentage lamb crop was in the Valley. "From 55 to 95 per cent," was the answer. "What is the main reason for the difference," we asked. "Lack of feed," he replied. Too many sheep men think they can carry their ewes thru on a little sagebrush, bring them up to lambing time in a rundown condition and then have them produce and raise a good crop of lambs. The men who get the big lamb crops are the ones who feed the best in winter. It does not mean that a ewe has to be fat, but she ought to be strong. We referred above to a possible increase of 10 per cent. The reader can easily figure what a 30 per cent increase might mean to the country. A fifth of a pound of cotton seed cake per day for seven or eight weeks will often bring returns many times greater than its cost. One quarter ton of hay will carry a ewe in good shape if there is no winter grazing.

Lambing Shed Popular

Another important step in conservation is adequate preparation for caring for the lambs when dropped. Lambing in the open is not an ideal method in Colorado, except in the extreme south. The lambing shed is becoming more and more popular all thru the western range country north of Arizona and New Mexico. With a good shed and artificial heat lambs can be cared for in zero weather with less loss than on the open range under ordinary conditions. The most careful sheep men may be caught inadequately prepared in a bad season, as was the case last spring. Such occurrences should not be frequent. To put off the time of lambing until there is no danger of storms must of necessity mean a late lamb crop. This in turn means smaller lambs for marketing in the fall. Ten pounds less weight per lamb means $1.50 loss per head. On 1,000 lambs this would go a long way towards providing adequate shelter that would be good for ten years.

One large sheep outfit in Middle Park with facilities for early lambing sold their lambs last fall at 80 lb. weight direct to the packers for 16½ cents per lb. This was $13 per head. Compare this with late lambs at 50 lb. weight and 15 cents per lb., or a total of $7.50 per head. Consider also the amount of valuable grain required to fit the latter lambs for slaughter, grain that could be used for human food, while the others were prepared entirely on otherwise unmarketable food.

Lambing tents may be rented in emergencies and are the means of saving many lambs, but are somewhat hard to heat, and may occasionally blow down. Lamb blankets are sometimes used, where stormy weather is encountered during lambing. This is a lined canvas cover about 15 inches square, which is tied on the lamb during the critical first few days after lambing.

We need not discuss in detail the losses that may be caused later thru disease or poisonous weeds. There is little disease among sheep in this western country, and not a great deal of loss from poison weeds except in restricted localities. If a man loses 5 per cent of his flock from some such cause, he gets interested in a hurry.

But if he only gets a 60 per cent lamb crop where he might have had 90 per cent his loss is taken as a matter of course, because it does not seem so striking. We must get the last possible increase in production. Ten per cent increase may mean 40 per cent increase in profits.

Dog Proof Fences

Losses from dogs, coyotes and other predatory animals are considerable every year. Dogs are a most annoying source of loss in farming sections. A sheep feeder near Fort Collins had 500 lambs on feed recently that were almost ready for market. A few weeks ago dogs visited his corrals and killed 300 of them. Only a few were killed directly, the rest were smothered by piling up in efforts to escape. This meant a direct loss of at least $5,000 to the owner, counting the set-back to the remaining lambs. This last named loss was well demonstrated at the Colorado Experiment station several years ago. It was found that lambs on feed chased by dogs for only a few minutes took two weeks to regain the weight they had lost.

As two weeks feed costs about 75 cents, a loss of $1.00 or more per head is the result, considering the lessened rapidity of later gains.

The best immediate remedy for this is the dog-proof corral for sheep at night. Two tightly stretched barbed wires above the usual tight board windbreak would prevent attacks by dogs. All gates and other openings would have to be similarly guarded. A coyote proof fence, as recommended by the Forest Service, is as follows: One barbed wire stretched tight on ground; 3 inches above, a 42 inch woven wire fence with triangular mesh; 6 inches above, another barbed wire and another 8 inches above that, making a 59 inch fence; posts 16 feet apart. A shotgun at the opportune moment is most excellent, but the sheep killing dog allows few such chances. Dogs destroy many thousands of sheep every year. The total losses from this source in the United States annually foot up q1,500,000 to $2,000,000, a large percentage of this being preventable if proper protection were afforded by such corrals.

State Livestock associations do much towards keeping predatory wild animals in control, but it will be long before all losses can be stopped. The sheep man who is in position to do so should consider the advantages of coyote-proof fences for range pastures and lambing grounds. Those interested should get Forest Service Bulletin 97 and Forest Service Circular 178.

Keeping Out Coyotes

The results of the Forest Service investigations in the Wallowa National Forest, Oregon, are given in Circular 178. The experimental pasture, two miles square, enclosed 2,560 acres, and carried 1,110 mature sheep and 930 lambs, 2,209 in all. The loss from all causes was one-fifth of one per cent, compared with losses of 1 to 3 per cent in flocks on adjoining open range. Of 166 coyotes that came to the fence in one season all turned back, failing to get thru. Under such a fencing system it was estimated than one man could care for 8,000 to 10,000 head of sheep, if ranged in four adjoining fenced pastures. Four herders and two camp tenders would be required for the same work on the open range, costing four times as much.

The great advantages of the protecting fence were not confined to the simple reduction of losses. Because of the protection afforded, the sheep scattered out better on the range, grazed over a larger area, and gained more in weight than when close herded on open range. The carrying capacity of the range was increased 25 to 50 per cent. Lambs handled under fence weighed 9 lbs. heavier than the best lambs herded in the open and the ewes weighed 6 to 8 lbs. heavier. No accurate records were possible regarding comparative wool clip, but the owner of the lambs believed the increase was at least 1 pound of wool per head. At present prices this would mean an increased value of $2.00 per head, including gain in weight. Based on 1909 figures with fencing at $400 per mile total cost, 3¼ cents per lb. for gains, $3.00 per head for losses, and no estimate on wool increase or increase in lambing percentage, it was estimated that the fence would pay for itself in five years.

At present prices for wool and mutton, even with the increased cost of fencing, it would pay out in the third year.

Even where fencing of the summer

Turn to Page 7

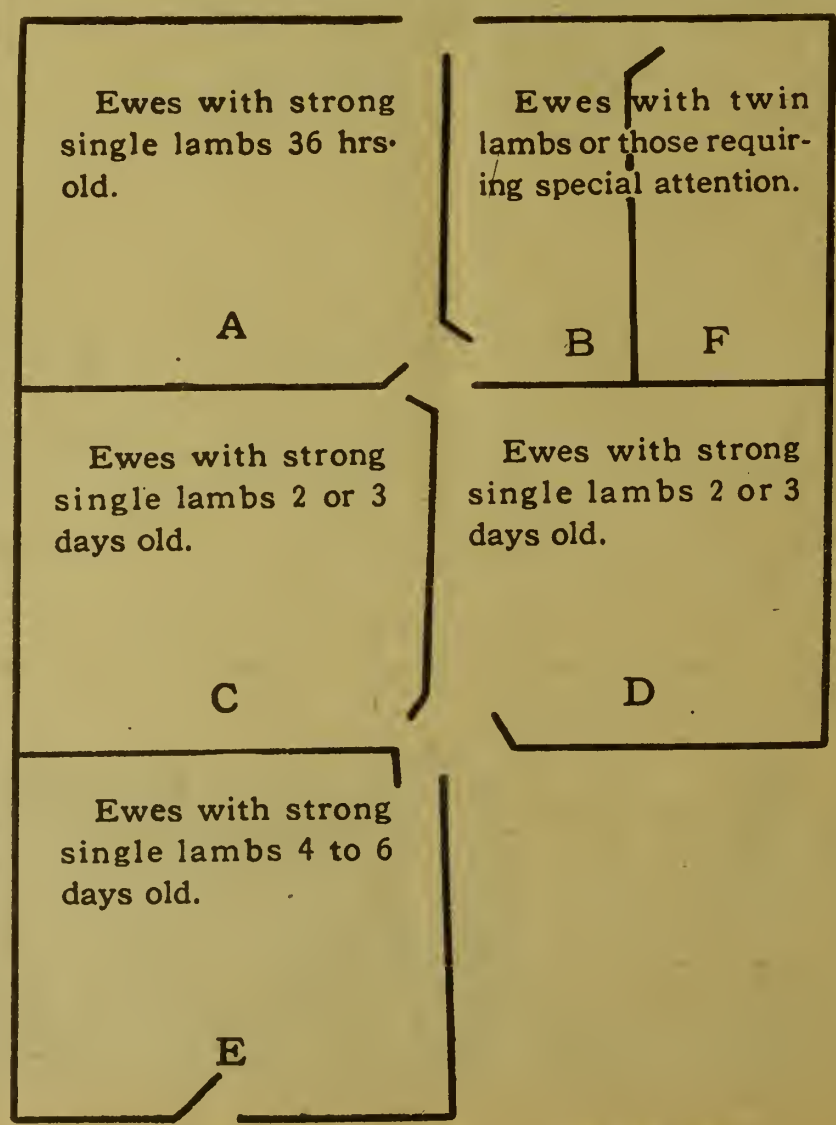

Diagram Showing Lambing Pastures Recommended by the United States Forest Service.

Glimpse of Concrete Highway Between Denver and Golden

Farmers Must Have Good Roads

AUTO TRUCK SERVICE TO HELP OUT THE RAILROADS

OSSES to producers in the mountain states due to lack of transtation, and the effect of these losses the food supply of the nation and its es in the war, has turned attention he question of better roads and the o truck as the only means of relief. Colorado and neighboring states d roads have heretofore been conered almost exclusively from the ndpoint of tourist traffic. Under the ency of war, however, the problem swung around to another angle, and nust now be considered as affecting movement of farm crops both for rt and long hauls.

There are many remote but fairly ll settled districts in the mountain tes that have waited for years for advent of a branch line of some raild. Such sections had best forget ir hopes of steel rails and get busy building permanent roads that will ke auto truck service for freight conient and rapid.

Farmers are solving the problems of p production, but too often, at harvest time, they find roads impassable, bridges in bad repair, or culverts crushed by a heavy truck or tractor. This is not a local condition—it is nation wide.

For instance, heavy trucks going from Akron, Ohio, to Boston, Mass., must go over the mountains of Southern Pennsylvania instead of the shorter and level route thru New York, because in some places bridges and culverts on the latter route are not strong enough. The entire cost of replacing these features of the highway is wasted again and again in time and materials, fuel and supplies.

As a general proposition, the farmer is awake to his opportunity and to the necessity of more crops and a larger acreage. But he has a vital interest in good roads, for only by them can he get the crops off his farm to the markets awaiting him. Good roads include the entire highway, bridges, culverts, drainage, etc. Until every farmer has a 365-day road from his place into town or to whatever market he chooses, there is a necessity for increased agitation for good roads. Only by good roads can the fullest advantage be taken of high prices, or can the crops be marketed at all.

Suppose you check up on just one bad spot in the road to town, which only allows you to haul half a load, and takes an hour longer to cross, and consequently means one trip a day instead of two. You and your team are worth at least $5 a day, so you lose $2.50 in addition to the sale of a load and a half of produce on every trip you make. You lose more in one week than your road taxes would amount to, and you pay for broken harness and equipment more than enough to pay for your share of the road.

When toll-roads were in vogue those using them had good roads, as they were viewed in those days, at a cost of a few cents a mile. Without them you spent as many dollars and got no comfort out of it either. Now the toll-roads are pretty well done away with, but bad roads are everywhere, and these roads should be put in shape to haul the produce which will be raised this season.

There is still time to have good roads for the 1918 harvest. Of course, it takes time to build good roads and the better they are the more thought and time should be spent on them. But the community which starts now can have the roads in service long before fall, and in ample time for the heavy hauling of tbe valuable crops.

In many cases it will be best first to improve the main market highways. Established roads have in most cases a substantial subgrade, which will make extensive grading unnecessary. Bridges, culverts and drainage can usually be improved at less expense than for an entirely new road. Little property need be taken for improving established roads, altho a re-alignment will often reduce curves and grades, railroad crossings and the like.

Granted that there is a need of good roads in a community and that the sentiment is fairly agreed on the highways to be improved, there is still the necessity of considering the nature of the improvement. A limited amount of travel may make a wide paved road too expensive for the district, while a too narrow road might not accommodate the traffic which would pass over it. There are several ways to check up on the requirements. One is to consider the area of cultivated land, the products of which would naturally be carried over the road. Another is the population of the district traversed. A third considers the number and character of vehicles on the existing roads. A fourth brings in the thru traffic which such a road would sustain.

Again, the available materials are an important item, and the class of labor obtainable makes a difference. These and perhaps other considerations will inuuence the engineer on whom the responsibility rests for locating and designing the highway.

The experience of other localities should be investigated. There are paved roads in every state in the union, and there are experienced engineers ready to advise communities regarding the type of surface, width, alignment, grades, bridges, culverts, and other problems connected with the subject. There are experts who can tell the amount of traffic to be expected, and the probable life and cost of maintenance of different roads under varying conditions. These men have made the same study of roads that the farmer has of wheat, corn and cotton. Every state has its Highway department, ready to advise regarding highway improvements and their counsel should be taken. They can save a district money while giving the very best road for the location. Prompt action must be taken to have a transportation system ready for its part of the work in marketing the food to be produced this season.

Potato Production Under Semi-arid Conditions

CULTURAL METHODS THAT ARE ESSENTIAL ON DRY LAND FARMS

E. R. PARSONS

VE speak about Irish potatoes and sweet potatoes but there is only a potato which belongs to the lanum family and is a cousin of the adly nightshade and also of the nato. The sweet potato is not a tato, but a convolvulus or morning ory, and his family name is Ipomea. rbank grafted the potato on the nato, but the results were not enely satisfactory. Some have been ing to graft the potato and the hlia, but this did not succeed, for the hlia is only an aster with tuberous ots.

Potatoes are of American origin. ere is some question about the thplace of corn, but none whatever out potatoes. They can be found toy growing wild in the Andes of South nerica, and in the Rocky Mountains Arizona and New Mexico. It is also obable that they could be found in the leghanies and some others of the utheastern ranges, for Sir Walter leigh's settlers in Virginia raised em and took some back with them en they returned to England.

They were not at all popular in Great itain at first, and it took many years discover that potatoes were a good bstitute for bread. When it was and, however, that they made good iskey, their popularity began to ow; but it was the failure of the eat harvests, especially in Ireland, ich finally put the pot in potatoes, or e potatoes in the pot.

From the fact that potatoes are ountain plants it is easily underood that their choice of habitat is in e cool altitudes of a warm climate ere the rainfall is rather light than herwise, which accounts for many of e characteristics of these wonderful bers. They do best on a north exsure. Excessive heat and hot winds e their worst enemies. They can and plenty of drouth where the ghts are cool. Heat and atmospheric midity predispose them to blight. ey are the most mysterious and temramental of all plants; we have never found out all about potatoes. They will grow in one place and not in another. They may make potatoes at one end of a valley and always run to tops at the other. If you are not in a potato belt go easy with this crop at first.

We know that potash and phosphate are more essential for a good yield than nitrogen and that the Divide and mountain granite soils, which are well supplied with potash from decomposing feldspar, are among the best.

With the farmer who relies on manure for enriching his soil it is always a question what to do for the potato patch. A heavy application of green manure predisposes to scab and blight, and if used at all must be worked into the soil before other crops than potatoes. For application before planting the safest are sheep manure and the black corral dirt from some old cattle or dairy farm. Commercial fertilizers are used in the east, but the price is becoming prohibitive.

Potatoes always grow well after alfalfa, but when the dry farmer secures a stand of this he seldom wants to plow it up. Therefore, all things considered, the best he can do is to rotate his crops with wheat or beans, and manure the ground well before each of these crops, but very lightly or with only corral dirt or sheep manure before the potatoes. By doing this he will in time secure a soil uniformity rich thruout and in the optimum condition for the heaviest yield.

2,000 Bushels Per Acre

The average crop of potatoes in England last year, under war pressure, was 240 bushels per acre. The champion potato raiser of the world is Mathew Wallis, also of that country, who raised in 1911, 119,800 pounds to the acre—about 2,000 bushels. This was made possible by very deep plowing, very heavy fertilizing, and close planting in proportion to the richness of the soil. A potato club boy in Utah raised 720 bushels last year under irrigation by fertilizing and plowing 12 inches.

To increase the yield of our potatoes we need deeper plowing, regular fertilizing, and good seed potatoes.

Until we understand the art of raising immature small potatoes for seed purposes our yields can never equal those of other countries where this method is followed.

Pruning back a tree causes it to burst forth with renewed vigor in the spring. Pruning back a potato has the same effect, only in this case the tubers are planted late, so that the frost does the pruning in September. That is all there is to it.

A cull from a main crop, or a cut from the choicest potato ever raised will never produce as many tubers to the hill as the little old half developed, immature potato from a hill planted late in the season and frosted before maturity.

Early in July the seed patch is planted from seed or cuts of a selected strain. After the frost gets them in the fall they are left in the ground a week or two to ripen and then dug for seed.

In planting with these a small potato is used whole for each hill. These are worth more for seed per pound than any big potato is for the table, and the day will come when raising them will be a lucrative industry for the dry farmer for they can be planted anywhere, and everywhere, even outside the regular potato belts, since size is no object, and quantity can be secured by close planting. It also gives the farmer a chance to select the most vigorous for seed, which he cannot do if he relies on pieces of potatoes he knows nothing about.

When using cuts for planting on the dry farm the pieces should weigh about an ounce and contain two eyes, so that if one fails the other will produce a sprout. Too many sprouts from one cut means a number of small potatoes. One in the hill makes for a few for large tubers. The farmer should use his judgment in thinning the potato patch. If he knows his land is in the pink of condition and the season promises a good moisture supply, two or even three sprouts may be left to each hill; but if, on the contrary, the season is dry, it is safer to thin down to one sprout in the hill, which will produce more saleable potatoes.

Deep Fall Plowing

Deep fall plowing is the best preparation for the seedbed and then another plowing in the spring. The soil must be mellow and friable and tilled to the limit. Any land which runs together easily and bakes after showers is not recommended, for the crop has to move or push aside tons of dirt to make room for itself, and if this energy is expended in moving clods instead of making tubers, there will be mighty few potatoes.

Hilling up cannot be practiced on the dry farm, for the reason that the slant throws the rainfall away from the plant. It is better, if anything, to have the plants in a hollow. This may be accomplished to some extent by plowing a shallow furrow with a lister, and planting in it to a depth of about 3 inches; but if the seed bed is only about 7 or 8 inches deep, it is better not to do this, for the cuts would be too close to the plow pan. When the rows are not run out with a lister the best depth to plant is about four inches, and as soon as the sprouts are above ground they may be harrowed across to exterminate seedling weeds.

The first cultivation should be as deep as the cultivator will go, and as growth proceeds, a little shallower, and further from the hill, the idea being to keep the soil friable as near to the newly forming tubers as possible without actually disturbing them.

If the soil in the potato patch dries

Turn to Page 15

Sugar Beet Price at $9 to $10.60

RECOMMENDATIONS OF COMMISSION MADE PUBLIC

THE commission appointed by the United States Food administration to recommend a basis of payment for sugar beets to the growers for the 1918 crop made its report two weeks ago. At the time this is being written no official recommendation had come from Washington, but it was generally believed that definite action would come at any time embodying the recommendations of the committee, which are eminently fair to the grower and meet with almost universal approval. The commission fixed $9 as the minimum figure and suggested a sliding scale that would make $10.28 a ton the price for beets having a sugar content of not less than 15½ per cent and under 16 per cent, and $10.60 per ton for beets having a sugar content of not less than 16 per cent and under 16½ per cent. The following comparative schedule shows the recommendations of the commission with the prices offered by the Great Western Sugar company in contracts first put out for the 1918 crop:

Sugar Content	Com's. Price	Co's. Price
Beets testing not less than:		
14% and under 14½%....	$ 9.32	$8.50
14½% and under 15%....	9.64	8.62½
15% and under 15½%....	9.96	8.75
15½% and under 16%....	10.28	8.87½
16% and under 16½%....	10.60	9.00

The Sugar company starts to increase for beets analysing not less than 12 per cent and not over 14 per cent at $8.37½, while the commission suggests $9 as the minimum. The Sugar company's proposed advance for each one-half per cent of sugar content was 12½ cents, while the commission suggests an advance of 32 cents for each one-half per cent of sugar content.

The commission declared that it did not favor a flat rate because it would not be equitable, but that if the Food administration believed a flat rate would best meet the extraordinary conditions now existing, the commission recommended $10 per ton as the figure to control such flat rate.

Following is a quotation from the report regarding the cost of beet production:

First—That it is impossible to find the cost of producing sugar beets in Colorado with mathematical accuracy, because of the number of variables entering into the problem. These variables are soil, fertility, season, personal equation, distance of haul, size of farming business, insect pests, plant diseases, weather, etc.

Second—That the average cost of the witnesses, according to the sworn testimony, is $92 per acre. The average returns are $104.48, giving an average net return of $12.48 on an average yield of 14.39 tons, which yield is a little over two tons greater than the average yield of the northern Colorado district, which produces the highest tonnage of any Colorado district. That these figures when computed to the average yield for northern Colorado, (twelve tons) gives an average cost of $90 per acre (total cost less hauling), an average gross return of $87.12, which will give an average net loss of $2.88 per acre, computed to the basis of twelve tons, which is just about the acreage yield for Colorado.

The commission was composed of Judge John C. Bell, of Montrose, a former member of the Colorado Court of Appeals, who is a farmer and a member of the State Board of Agriculture; A. A. Edwards, president of the State Board of Agriculture; Prof. Alvin Kezer, head of the Department of Agronomy at the Agricultural college; W. Price Dunlavy of Trinidad and B. E. Parker of Julesburg.

Save the Potato Sacks

E. R. BENNETT,
Field Horticulturist, Idaho University

Western potatoes are almost without exception marketed in sacks. Before the war these sacks were but a small item in potato growing. At present the container is one of the big factors in the price of a sack of potatoes. This year Idaho's potato crop will require in the neighborhood of three million sacks. What becomes of these sacks after the potatoes are consumed is a question of much economic interest. Previous to the world war western grain was shipped to Europe in sacks. The handling of these sacks usually stretched them to such an extent that they were of no further value as grain containers, but they were collected, baled and returned to this country by the shipload under the name of "Liverpool returns," or centals. These sacks, the past few years, could be purchased for potato growers at four, five or six cents each. When the war developed thousands of miles of trenches, rifle pits and underground fortifications, these sacks were diverted to more immediate use. Untold millions of them have been filled with soil and piled in rows in front of the trenches. It has been reported that silks and even oriental rugs have been used on the Turkish front in trench construction.

The result of this diversion of sacks to other purposes is that potato sacks have steadily advanced in price till the price is now becoming practically prohibitive.

What do you do with empty sacks? The larger part of the potato crop is delivered to the western consumer in the sack. Most of these sacks are never used again. If the sack of potatoes is placed on a dirt floor and remains there for any considerable length of time, the sack rots and is useless. Likewise if frozen or decayed potatoes remain in the sack it will soon be spoiled for further use.

We are asked to help win the war by practicing economy. Save wheat! Save sugar! Save meat! Why not also help the farmer by saving the potato sacks? When the supply of potatoes is purchased it is much better for the potatoes if they are emptied out of the sacks either in a pile on the cellar floor or in a bin made for that purpose in a dark room. Then the sacks should be hung in a dry place or be sold to dealers in such supplies. Children in any neighborhood can earn many a dime by collecting the potato sacks and selling them either to dealers or to the growers. Sacks are becoming harder and harder to get and hence higher in price. Save the sacks; it will help the farmers.

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for preparing your seed bed, will increase your crops 25% whether you raise wheat, barley, sugar beets, beans, potatoes, alfalfa or any other crop. A perfect, well pulverized and firm seed bed is aa important for one crop as for another. The Western pulverizes and packs as deep as plowed and leaves a loose mulch on top to protect the moisture; saves 1-3 of expensive aeed and time, labor and horse power in preparing a seed bed. It is especially adapted for breaking crust and cultivating winter wheat in the spring, or for breaking crust on sugar beets or beans either before or after they are up without injury to the plants.

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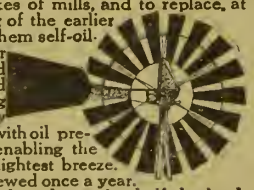

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The Miracle of the Marne

The battle of the Marne halted the rush of the Germans towards Paris. It aroused the French to superhuman bravery. They fought as if led by the spirit of the Maid of Orleans herself.

The Marne was a demonstration of the power of patriotism with its back against the wall. The same sacrifice of self, the same love of country and unity of purpose that inspired the French people must inspire us, and we must win the war.

We are sending our be manhood to fight for u They must be armed, fed a clothed, cared for throu sickness and wounds. This the work of every individu as well as the Governme

It is the proud duty of t Bell System to coordina its purpose and equipme to the other factors in o national industrial fabric, that the manufacture a movement of supplies to o boys abroad be given rig of way.

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The Food Controllers of United States and Canada are asking for greater food production. Scarcely 100,000,000 bushels of wheat can be sent to the allies overseas before the crop harvest. Upon the efforts of the United States and Canada rest the burden of supply.

Every Available Tillable Acre Must Contribute; Every Available Farmer and Farm Hand Must Assist

Western Canada has an enormous acreage to be seeded but man power is short, and an appeal to the United States allies is for more men for seeding operations.

Canada's Wheat Production Last Year Was 225,000,000 Bushels; the Demand From Canada Alone, for 1918, is 400,000,000 Bushels

To secure this she must have assistance. She has the land, but needs the men. The Government of the United States wants every man who can effectively help to do farm work this year. It wants the land in the United States developed first, of course; but it also wants to help Canada. Whenever we find a man we can spare to Canada's fields after ours are supplied, we want to direct him there. Apply to our Employment Service, and we will tell you where you can best serve the combined interests.

Western Canada's Help Will Be Required Not Later Than April 5th. Wages to Competent Help, $50 a Month and Up, Board and Lodging.

Those who respond to this appeal will get a warm welcome, good wages, good board, and find comfortable homes. They will get a rate of one cent a mile from Canadian boundary points to destination and return. For particulars as to routes and places where employment may be had, apply to

U. S. Employment Service, Department of Labor
Denver, Colo., or Helena, Mont.

Sweet Heads Market Bureau

tuart L. Sweet has been appointed ef of the United States Bureau of rkets for the state of Colorado, to ceed the late W. H. Kerr. The orado Office of Markets is one of most important divisions main- ied by the federal bureau in charge marketing operations for the farm- of the United States. Supervision it requires a man or rare executive lity as well as a thoro knowledge western agricultural conditions. Mr. eet has 'oth the ability and the owledge. He is the son of Lou D. eet, president of the American Po- o Growers' association, who is in rge of the vegetable section of the ited States Food Administration at shington.

Mr. Sweet is a graduate of Denver iversity and was a graduate student Kansas State Agricultural College d Colorado Agricultural College. At latter institution he also served an instructor. He has been con- cted with the Bureau of Markets ce last June. The war has forced rapid development of govern- ntal activities in relation to mar- ting, and farmers are finding the rk extremely helpful in handling ir crops. This is especially true perishable and semi-perishable oducts. In these lines the grower s formerly at the mercy of the

Stuart L. Sweet

mmission man and he had no means getting information about prices d crop movement, except from biased urces. Now he has available, free charge, accurate information re- rding supply, demand and market ices. The market quotation service one affords relief from oppressive actices which formerly were so mmon.

In addition to this, the Office of arkets seeks to find new outlets for e farmer's produce, assists in estab- shing standardization and grading d does other like service that bene- s both producer and consumer. armers are urged to avail themselves ore fully of this service. The Den- r Office of Markets invites corre- ondence with producers on their oblems and welcomes suggestions at may make the bureau a more ef- ctive factor in giving the producer fair return on his investment of pital and labor.

Conservation of Lamb Crop on Western Ranches

Continued from Page 4

nge is not practicable the fencing lambing grounds has proved an ad- ntage. Forest Service Bulletin No. gives a detailed account of lambing der fence in Saguache county, Colo- do, on the Cochetopa National Forest. fty acres of good lambing grounds ere fenced with a good coyote-proof nce, as shown in accompanying dia- am. Six separate divisions were ade, four of ten acres each and two of e acres. The entire cost of the pro- ct was less than $1,200.

These lambing pastures were located the center of a good protected range, terspersed with timber. The exper- ental band was made up of 1,006, of hich one-third were yearlings. The ain camp and night corral was close at the edge of the timber. Each morning the ewes with lambs were left behind and moved into pastures A and B. The day drop was usually kept in a small corral on the range the first night and brought in the following day. The diagram indicates the way in which the sheep are moved from pen to pen before going out on the range.

The advantages of the coyote-proof lambing ground have been summarized as follows:

Increase in percentage of lambs saved, 3 to 5 per cent.

Reduction in labor required, 50 per cent.

Better condition of ewes and lambs.

For conditions farther north, a combination of the above plan with a lambing shed is advisable; a lambing shed being, for present purposes of description, a structure of varied arrangement, containing small, individual pens for ewes with young lambs, larger pens for older lambs and provision for artificial heat if needed, and for watering, feeding, etc.

Space does not permit of detailed description of methods of handling lambs, reviving chilled lambs, raising orphans, making ewes own their lambs or another's. These things are familiar to every sheep man. For further description of details we recommend Forestry Circular No. 178, price 15 cents, and Department of Agriculture Bulletin 20, Management of Sheep on the Farm, price 20 cents, either of which may be had on application to the Superintendent of Documents, Department of Agriculture, Washington, D. C.

Sheep Raising for Beginners is another good bulletin. This is to be had free upon application to the Division of Publications, U. S. Department of Agriculture.

Remember that every extra lamb raised means more power in the front line trench; every pound of wool produced helps to make the world safe for democracy; and every extra pound of gain produced on the range means the equivalent of 5 pounds of grain saved that is badly needed for human food.

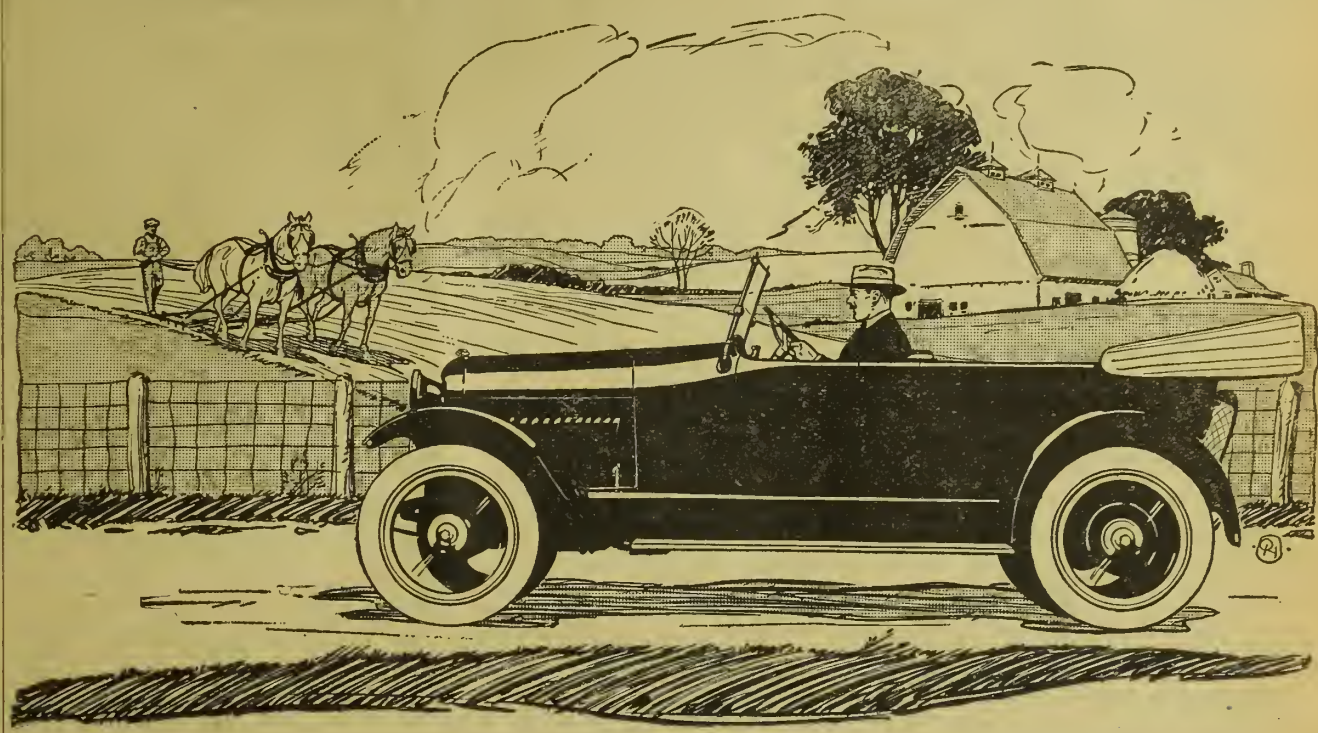
State Organizer Wells was in Burlington recently, assisting in the organization of Burlington Pomona No. 6. Five subordinate granges were represented and the organization was formed with 83 charter members, at an all-day meeting attended by farmers from all parts of the county. The principal officers of the new Pomona are L. F. Brammier, master; Mr. Blomquist, secretary and lecturer; Mrs. Geo. Kiefer, secretary.

Milking on Shares.

A has a ranch in Moffat county and B offers ot furnish cattle to stock it. A is to furnish all feed and take care of stock. What should A's share of increase and cream be?

I believe the fairest arrangement for the kind of a proposition you mention, is for A to have the milk and one-fourth of the calves from mature animals, and one-half of the calves from two-year-olds. A to keep B's share of the calves and feed them until they are six months old.—G. E. M.

Only a slacker could stand idly on the sidewalk and criticise as the army of workers marches by.



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Dr. Jardine's Appointment

Farmers all over the west will approve the action of the regents of Kansas State Agricultural college in appointing Dr. William M. Jardine president of the institution, to succeed Henry Jackson Waters who resigned to engage in agricultural writing.

The Kansas institution has grown so big that its influence is nationally felt. It is no reflection upon the colleges of the mountain states—in fact these colleges are proud of Kansas—to say that K. S. A. C. leads the agricultural thought of the West and divides its leadership in the nation with only a limited few of the big farming schools. The organization built up by Dr. Waters and his predecessors is fully entitled to that leadership. Naturally the question of filling the executive chair with a man whose services and ability entitled him to the distinction, received careful consideration and when the choice of Dr. Jardine was announced it was plain that the board desired a continuation of the strong, progressive policy that had characterized the Waters regime. Agriculture has received recognition in this appointment, for it is in the service of this science that Dr. Jardine has won distinction as well as the confidence of farmers.

Doctor Jardine is one of the best known agronomists in the United States and a noted authority on dry farming. Born of pioneer parents in Idaho, he worked on ranches and farms in the far west until the age of 20 years. Following this he went to the Utah Agricultural college, where his work was so brilliant that within two years after graduation he was head of the department of agronomy in that institution. He has taught in several agricultural colleges and has pursued graduate study in agriculture. For several years he carried on important investigations in dry farming for the United States department of agriculture.

President Jardine came to the Kansas State Agricultural college in 1910 as professor of agronomy, and was made dean of the division of agriculture and director of the agricultural experiment station in 1913. His administration of these lines of work has given the college a high place in the field of research, while at the same time the business side of the enterprises was managed economically and successfully.

✦ ✦ ✦

Sweet Clover For Pasture

Sweet clover makes an excellent pasture for milk cows. Tests carried on by the Kansas Experiment station under the direction of O. E. Reed, professor of dairy husbandry, show the high feeding value of clover.

There are several varieties of sweet clover but the most profitable variety and the one used in this experiment is the white sweet clover. It is possible to obtain a continuous pasture with sweet clover by allowing it to seed itself each year or by seeding it each winter or spring.

The experiment station test started May 7. Six Holstein cows were turned on to a sweet clover pasture of 3.8 acres. The pasture used was the second year's growth; this field having been seeded the year previous with oats and the clover harvested for hay. The plants made an early start and had a good growth when the cattle were turned in.

The entire number were kept on this field continuously for 40 days, and on account of the dry season checking the growth of the clover, three cows were removed at this time. As the pasture improved later, one cow was returned on August 4, and after that time four cows were pastured continuously until October 1. The cows were kept on the sweet clover pasture day and night. The only food received by the cows outside the pasture was a grain ration composed of corn chop, bran, and oil meal, fed in the proportion of one pound of grain to each four pounds of milk produced per day.

During the period the cows were on the pasture, the total amount of milk produced was 19,393.5 pounds, containing 680.58 pounds of butter fat. The cows consumed 4,602.8 pounds of grain. Figuring the milk produced worth 20 cents a gallon and the grain fed $50 a ton, one acre of pasture produced $88.46 worth of milk. On the butter fat basis, with butter fat at 40 cents per pound, one acre produced $40.85 of fat, exclusive of the skim milk.

The total number of days of pasture obtained by all cows in the lot amounted to 618 days, an average of 154.5 days for four cows. At this rate the pasture of 3.8 acres kept four cows for approximately five months, or in other words, one acre of sweet clover pasture kept one cow for five months.

It doesn't matter who started this war, Uncle Sam will finish it.

What the War Means to Us Now

The Germans are killing American boys today. War has ceased to be something for which we are preparing and come home to us as a reality. Some days ago I sat for two hours listening to Edward F. Trefz and Beatrice Forbes Robertson Hale in the Denver Auditorium, along with some four or five thousand others. These representatives of the United States Food administration talked straight from the shoulder. Mrs. Hale was in Europe when the war broke; Mr. Trefz has just come back from a tour of investigation of conditions in France and Belgium and a visit to the men—our men—in the trenches.

It would be futile to attempt to convey to readers of Western Farm Life the actual conditions as reported by these investigators. I can only give you the impressions and express regret that we cannot have audiences of thousands of farmers assembled thus to get the facts about the awful conflict from eye witnesses.

Be assured that Germany has not changed her policy of frightfulness. Intimidation of non-combatants thru atrocities is a part of the system. Mr. Trefz presented proof of this in reading from the diary of a German prisoner. Brutality beyond anything in history has followed the German conquest of Belgium and northern France. The details are so terrible that those who listened to the recital recoiled in horror. Mr. Trefz came into actual contact and speech with women who have, somehow, survived the brutality of their German captors. One incident, he told, of a woman he first met when, as wife of the President of a Chamber of Commerce in a French city, she visited America. Mr. Trefz at that time was an officer of the United States Chamber of Commerce. Almost, he said, as if it were an act of God, he again saw this woman, once a charming social leader in a French city, now a broken wreck of German bestiality, confessing that only her body is back in France; robbed of her soul by brutes who came from over the Rhine to ravish and to kill!

Utter depravity, he said, has marked the treatment of women taken from Northern France to camps behind the German lines; there made to don overalls and work on the war railroads by day, and by night, chained by the wrists to German Colonial blacks and forced to share their beds!

Shocked? Yes, we were appalled by the recitals that came to this audience of thousands from the lips of a government representative who has been "over there"; who has seen these things; and with whom the men in command on the Allied western line and our own government officials have shared the terrible secrets of the war that our papers have refrained from publishing. The time has come when these things must become publicly known; when it must sink into the consciousness of every man and woman of America that we are engaged in war with the enemy of humanity.

Mrs. Hale told us of the pitiful plight of the Belgians; of the children who come to get their daily food allowance, holding up the food ticket in tiny, blue-cold fingers; and of the woman in charge who, seeking out the least needy and least hungry, is forced to tell them, "there is not enough food to go around today; you must come again tomorrow!"

We have READ of the starving of Europe, but when we HEAR it from the lips of witnesses, we begin to FEEL the truth and REALIZE the need for sending every pound of food that we can grow or spare from our own store, abroad. The Belgian war sufferers are absolutely dependent upon the bounty of the American people. There is no one else to feed them; if we fail, they die. And even now they go hungry because we do not send them enough. That is Mrs. Hale's message to the people of the west.

In England, so Mr. Trefz tells us, women have replaced men in nearly all occupations; the man power of the Islands is at the front—the long-drawn front in France and Belgium, and in the eastern theater of war. In France only the old men, the cripples and the boys are left at home. The fighting men are waiting for Americans and more Americans, and for food and more food, to win the war.

Now, let us face the situation squarely and honestly. Face it in the spirit of the West. Shall we, who are counted on to support the fighting men of our own flesh and blood and of our brethren now joined with us in the final clash between Humanity and the Hun, shall we put our own petty bickerings about food prices above the fate of civilization? Are we going to listen to the voice of the agitator and the destroyer of internal peace, who comes to us with the Kaiser's brand on his forehead—the mark of the Beast—and forget our duty to God and Humanity?

There is no middle ground now. (These are the words of Mr. Trefz.) Either you are for your country or against it. If you are right you do not need to be coaxed to do your part in food production and food conservation, relying upon your government to iron out the injustices as speedily as possible, but keeping ever in mind the first duty that confronts us all regardless of the sacrifices that are demanded in the process.

Alvin T. Steinel

The Branding Iron

Applied by Elias M. Ammons

With spring three wekeks ahead last year our field crops ought to g a good start. The fruit men usual do not like this kind of a spring well, but let us not borrow troubl maybe the Lord has decided to good to us all this year.

✦ ✦ ✦

A grocer on the western slope wro the Food administration saying could get six cars of wheat and ask if he could not have it ground in flour and sell it. He received a rep to ship the wheat. He couldn't find and is now looking for a safe place light.

✦ ✦ ✦

Every loyal citizen is in some p riotic way contributing to the su port of the war. As the prime nec sity is food why shouldn't all of who are not in the army direct least half our efforts to growing mo wheat, meat and other foods? If are not directly in the business o selves we can help some one who

✦ ✦ ✦

Work on the farm may not car the glamour of military achieveme with it, but meat and bread and sug are the prime necessity to carry t banner of enlightenment "over t top" to dislodge the menace of m tary autocracy from civilized insti tions.

✦ ✦ ✦

The limit on the price of whe flour and the much greater cost substitutes has the wrong tenden Substitutes should sell for less. Su a plan would furnish more induceme to use substitutes.

✦ ✦ ✦

The mountain states farmers see to have about as much influence do at Washington as anybody. The go ernment has picked up our pin beans, adjusted the beet price a taken lamb off the meatless day p gram, all of which is pretty good wh we consider that the western farmi districts are thinly populated co pared with the cornbelt states. Tha you, Mr. Hoover!

✦ ✦ ✦

The writer has just returned fr the Western slope where he fou good potatoes selling as low as six five cents a hundred. This morni at a downtown grocery he had to p $2.15 for the same kind of spuds freight twenty-five cents.

✦ ✦ ✦

We should not interfere more th is necessary with the ordinary cour of business and industry during t war, but just so long as our boys the army must work fifteen hours day for thirty dollars a month, co tribute two-thirds of that to liber bonds nd most of the balance to i surance, and then must go to the fro and face the danger of war, every ab bodied man found idle should be co scripted and put to work raising bre and meat for those who are fighti our battle abroad.

The Third Liberty Loan

"You are but asked to lend, to i vest in the best security in the world

These words are from a page adve tisement appearing in this issue, space donated by Western Farm Li to the Third Liberty Loan. April 6 marks the opening of the drive i which Americans will again signi that they are back of the governme in the war "to the last dollar," as th have already signified that they a with the nation, "to the last man The story of the advertisement tel itself. Read it and invest. Put eve spare dollar into Liberty Loan bon and put your heart behind the dolla

---

A Michigan farm paper say "Somebody seems awful anxious give the eastern navy bean a bla eye." Well, maybe this is the com back for the attempt of the navy be man at knocking the spots off t pinto.

Food will win the war—produce

Comment by Farmer Putnam

HE HAS SOMETHING TO SAY ABOUT THE JOHNSTOWN DAIRY SHOW AND THE COW INDUSTRY GENERALLY

THEM fellers up to Johnstown wanted me to come and write up their dairy show, so I went and got on the U. P. as fur as Milliken, where Mr. Letford met me with his auto. Mr. Foster, the State Immigration Commissioner, was with me, too, because Johnstown is in his home county. On the way up he sez: "Putnam, I wish you would put me next to some things about judgin' dairy cows, so's I kin make a impression on them Johnstown farmers."

Well I done so. I told Foster all he had to do was to git a stick with a crooked handle, put on top boots with his pants laced inside of 'em, wear a white hat and a knowin' look and stand around when they brought the stock out and poke the cows in the ribs with his fingers, feel of their udders, and say: "My goodness, hain't she got good milk veins!"

He sez them instructions was o. k. exceptin' that he didn't believe he could say "my goodness," because he wasn't used to strong language.

I seen him practicing on some of the cows in the show tent after we got there, but had to call him down when he put his hands on the horns of a Guernsey and sez: "Jumpin' Jupiter, but this cow's got good milk veins!"

Judgin' stock has to come natural to a feller; you has to grow up with the cows to be able to pick 'em out fur their good qualities of beef and milk, no matter what they learned you at college about the points. Mike Penrose was the judge and he done right well. All the Holstein fellers was tickled to death with his judgment, but them Guernsey and Jersey fellers didn't like it so well. The only way to satisfy everybody at a dairy show where they is more'n one breed in the ring is to git a chicken man to judge 'em and blindfold him.

The reason it's hard to please cow owners is that all the breeds has got their good points, and when it comes to decidin' the fine points between two cows of different breed, well, it ain't no wonder that the Holstein man will see only black and white and the Guernsey man red, because the same standards don't apply. If I was runnin' a dairy show I don't think I'd have a grand champeen cow of the show, but I'd make a grand champeen of each breed. Even then there's trouble enough fur the judge, especially when he gits to a district like Johnstown, where they hain't got absolutely no poor cows. It's got so up there that people is judged in their social standin' by the gallon and pound of butterfat that their cows is producin', and anybody that hain't got better'n a thirty-pound cow don't git in on the big parties and dinners.

They is three or four town fellers that's had about as much to do in makin' good cows popular as anybody, and that is Gilbert Landell, W. T. Letford, T. H. Hill and R. B. McDermott, editor of the Breeze. Mr. Landell is manager of the condenseries at Fort Lupton and Johnstown, and Letford and Hill runs the First National bank. It's cows that keeps the condensery and the banks goin', and the bank and the condensery encourages cow buying. The Johnstown district was doin' fairly well before the cows come in, but the land was runnin' down and the farmers was allus kickin' about beet prices. Things was about to the limit with no chanct of higher land prices, or bigger incomes, till the condensery started in business. After the farmers signed up to git cows and milk money come pourin' in just like the milk went out, why, the landscape changed. Instead of havin' all their farmin' activity in spring and fall, them Johnstown district farmers has it all the year round.

Some of 'em is kickin' because it's too much work to milk, but you don't see 'em givin' it up. They hain't nothin' in this world that brings in easy money exceptin' sellin' oil stock and organizin' farmers' political parties, and them two grafts has a kickback to 'em. Milkin' cows is a steady job, Sundays and holidays included, but it pays time and a half fur overtime even when feed prices is awful high, because every cow, besides her direct income, is makin' the farm better by furnishin' fertilizer. Take the cows outen the Johnstown district and land values would drop about $100 per acre, so them farmers figgers that even in these here strenuous times of high costs they're goin' to stick to the cows.

It was a fine sight when we come ridin' along the road in the morning to see the farmers drivin' their herds in to the show and then back to the farms ag'in in the afternoon.

One of the lady visitors to the show from Denver sez to me:

"What an inspiration it must be to them farmers to be out in the field plowin' and look over there to the west and see them beautiful snow-capped peaks and them glorious sunrises and sunsets, with their exquisite cloud coloring."

"Yes, lady, I reckon it is," sez I, "but the features of this here landscape that appeals to me is the black and white of the Holsteins, the yaller and white of the Guernseys and them fawn-colored Jerseys. The kind of inspiration it takes to make farmin' good is cows that'll fill the pail. A feller cain't appreciate them mountains and sunsets onless his check is good fur about $6,000 to $15,000 or $20,000 at the bank and he's got a flivver to ride aroun in. And many a glorious sunrise has been cussed by a farmer because it didn't mean nothin' to him except another day of hard work to keep body and soul together."

The lady thought I was a regular pessimist, but I couldn't help feelin' that way when I seen all that good stock led in by farmers that knowed their business. Some of 'em is renters but most of 'em owns their farms. The renters has got good herds and they're layin' by enough milk money so's they'll be able to buy a farm of their own in a few years. You see the farmers kin buy herds on loans

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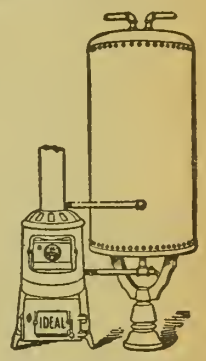

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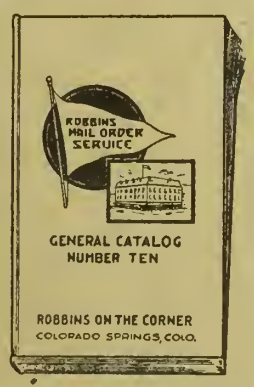

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Feed for Wintering Beef Cattle

WHAT TO PROVIDE TO FOLLOW GRAZING SEASON

E. J. IDDINGS

THE problem of wintering beef cattle is one that demands consideration in connection with planning the crop system for the coming season. In some districts grass may be provided for late fall and winter months by arranging the pastures that portions of them may be used lightly and saved for the winter to come. Meadows and hay lands of all kinds must be arranged, keeping in mind the needs of the beef herd in the months to come. Silage has become a prominent factor and in a few districts an almost dominant factor. In the business of breeding and feeding beef cattle, silage crops must be planned at an early date if the silos are to be filled for use next fall and winter.

There was a time when nature took good care of the beef cattle man. Grass was abundant and large sections of range were so lightly grazed in spring and in summer that the grasses were left to care for the winter feed for both the breeding herd and the steers. Those days are, however, long past. The over-crowding of the range, the carving out of vast irrigated districts, the homesteading of great areas for dry farming, have forced the reduction of herds and have made necessary special provisions for winter feeding. The problem of winter feeding and care, th refore, becomes one of fundamental importance in any system of beef cattle management. The practice is quite uniform in depending upon grass for summer feed, but methods of winter management vary widely.

Forehandedness in storing feed, or purchasing it from others, for winter care of beef cattle, is the rule now in the Northwest rather than the exception. The only question now apparently at issue is that of "how much and what kind to provide." Many depend upon grain fields, the aftermaths of meadows and the straw stack. Others provide well with alfalfa, silage and other forages, and plan to use these feeds with unsparing hand.

Nature Alone Not Sufficient

Data secured by the United States Department of Agriculture indicates that the average long-two-year-old range steer in the states of Oregon, Washington and Idaho weighs 900 to 1,000 pounds. This kind of a steer is the product of a reasonably good sire and dam, has had good grass for three summers and has been fed for a short period at least for two and generally three winters. The fellow who buys no feed and grows none for his cattle, but who depends upon a bountiful nature to care for and conserve his interests, fails to make such weight by 100 to 250 pounds.

Quick maturity, rapid turning of capital, heavy gains early in life when gains cost least in feeds, are fundamentals in all branches of animal husbandry, and beef cattle production does not furnish an exception. Why not, therefore, pay more attention to winter keep? It is the consensus of opinion of well-informed beef cattle men that a year can be saved by the average beef cattle producer in growing and finishing his steers. The long yearlings can be made to weigh 50 to 100 pounds more than the weights indicated above for long-two-year-olds.

If such results are to be attained, attention must be given to breeding. The herd should consist of thrifty cows and pure-bred bulls of size, thickness, depth and neatness should head the herd. The next problem and the most often neglected is that of winter feed and care. Ordinarily, some shelter, such as trees, shed or other wind-break, should be provided. If the steers are to have good weight as yearlings, they must have no set-back at any time. Losses are only regained at a heavy feed cost, and are necessarily expensive for the beef producer. The later summer grass fat is an important factor in successful winter keep, and must be retained. Meadows and waste of grain fields may carry the herd for days and possibly weeks.

Use Alfalfa and Wild Hay

Then alfalfa, clover and wild hay should be freely used to maintain growth, retain vigor and promote thrift and well-doing. In some cases, particularly for thin cows and for calves and young steers that need be kept making good gains, concentrates such as cottonseed meal, barley, bran and other feeds of similar nature will be fed with profit. We are realizing in the west today as never before the value of succulent feed for winter. Succulence during the winter months gives us an all-year-'round pasture system of maintenance. Breeding animals are kept in better bloom, are more thrifty and take better care of their

Turn to Page 20

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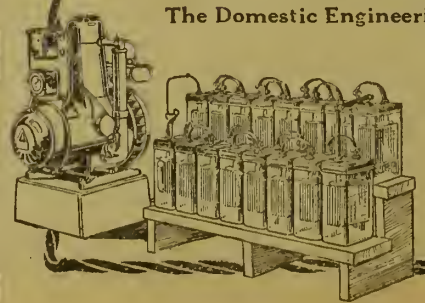

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The Jarosa Ranch Horse Sale

STALLIONS AND MARES GO WELL TO FARM BUYERS

N spite of all that has been said for and about the farm tractor and ming by machinery, there is today unlimited demand for draft horses, h indications for continued calls to ply not only the American farmer, drayage business of the cities, but demand for breeding stock from oad at the close of the war.

Anyone who was of the opinion that draft horse industry is on the de- e had an opportunity to learn that opposite is true by visiting Long- nt recently and attending the 5th ual sale held by the Jarosa Ranch. Howard M. Jay, owner of the ch, deserves great credit for build- up the industry and stimulating demand for purebred horses for m use by holding these annual es. Some four or five hundred mers were in attendance, coming m all parts of northern Colorado h quite a few from more distant sections. The sale was held on the Boulder County fair grounds, the auctioneers being Alpheus Bashor, C. W. Snook and Joe Hayes. From 11 in the morning until late in the afternoon the three "Colonels" kept up a verbal barrage that brought in dollars and dispersed mares and horses to the number of nearly half a hundred.

Top price was brought by a Percheron stallion, Joliette (98919), sold to Guy Harmon of Lafayette for $1,550. The bidding on this beautiful stallion started at $1,000 and there was lively competition for him. He is an exceptional animal with an unbroken record of winnings in the show ring. Two of his get sold to Chris Dowell for $150, and the purchaser got a bargain.

There was no by-bidding; everything that was trotted out of the stalls into the auction ring went to the highest bidder and got a new home. Mr. Jay has established a reputation for a straight, open and above board sale, where the highest bidder "gets the goods" no matter where the bidding stops. This policy is bringing him annually a larger number of real farm buyers who know they will get a square deal. In this way first class breeding stock is being widely disseminated and the influence cannot be otherwise than good.

Following is a complete list of the sales:

Percheron Mares

Glossie, George Ross, Loveland, $612.50.
Fearn, C. V. Owens, Greeley, $430.00.
Beaulie, C. V. Owens, Greeley, $400.00.
Cap., J. B. Benedict, Littleton, $267.50.
Finette, Francis Markham, Meade, $440.00.
Jessie, William Hanson, Longmont, $373.00.
Ona, C. V. Owens, Greeley, $480.00.
Shelby Queen, Robt. Markham, Meade, $470.00.
Nettie, Guy S. Carlton, Ault, $385.00.
Olive Branch, Otis Carlton, Ault, $275.00.
Cecile Branch, Chris Dowell, Lafayette, $292.50.
Nettie, John Uhrich, Loveland, $205.00.
Elnora, George E. Brown, Berthoud, $310.00.
Octoria, J. B. Benedict, Littleton, $425.00.
Mollie Jane and Colt, Guy S. Carlton, Ault, $200.00.
Flossie, Arthur Collon, Axial, $110.00.
Tip and Nell, R. R. Archer, Wiggins, $650.00.

Belgian Mares

Fronia, Francis Markham, Meade, $860.00.
Roanie De Rhode, C. W. Pace, Longmont, $310.00.
Maretta De Rhode, John Ross, Loveland, $240.00.
Geneva, Robt. Brown, Johnstown, $235.00.
Daisy and Belle de Blade, Emil Olson, Meade, $943.65.

Shire Mares

Shire Mare and Stud Colt, Geo. A. Gibson, Loveland, $250.00.
Burton Roseland, Henry Muhme, Longmont, $400.00.
Mayfield Daisy, Chris Dowell, Lafayette, $405.00.
Lady Geneva, C. W. Pace, Longmont, $200.00.
Roseland, Henry Muhme, Longmont, $240.00.
Starlight Daisy, Geo. Miller, Lafayette, $365.00.

Percheron Studs

Marathon, Emmett Taylor, Longmont, $625.00.
Hercules, C. W. Pace, Longmont, $400.00.
Quinten, Jas. Walker, Longmont, $710.00.
Duncan, Paul H. Eaton, Eaton, $285.00.
Sultan, The S. L. W. Ranch Co., Greeley, $505.00.
Largo, W. J. Showalter, Loveland, $300.00.
Fritz, C. W. Pacc, Longmont, $605.00.
Dutchman, J. F. Marsh, Hoyt, $315.00.
Victor, C. W. Pace, Longmont, $370.00.
Gerald, Arthur Callom, Axle, $205.00.
Burton, John Goodell, Hoyt. $300.00.
St. Patrick, C. W. Pacc, Longmont, $200.00.
Shire Stud, Bryan Admiral, Middlesworth & Danell, Wiggins, $100.00.
Belgian Stud, Jules, C. V. Owens, Greeley, $700.00.
Colt, Jack, C. W. Pace, Longmont, $30.00.
Colt, Jack, Glen Martin, Boulder, $30.00.
Colt, Jack, L. O. Munson, Longmont, $15.00.
Percheron Stud, 6 months old colt, Wesley Hampton, Meade, $90.00.
Percheron Stud Colt, C. W. Pace, Longmont, $240.00.

All Pervasive

The teacher's last question was meant to be a scientific poser.

"What is that which pervades all space," she said, "which no wall or door or other substance can shut out?"

No one had an answer ready but Freddy Sharpe.

"The smell of onions, miss," he said, promptly.—New York Times.

Eight to twelve inches of snow along the eastern slope on the winter wheat ground ought to make us all feel good, tho we may have to eat a little more cornbread during the early summer.

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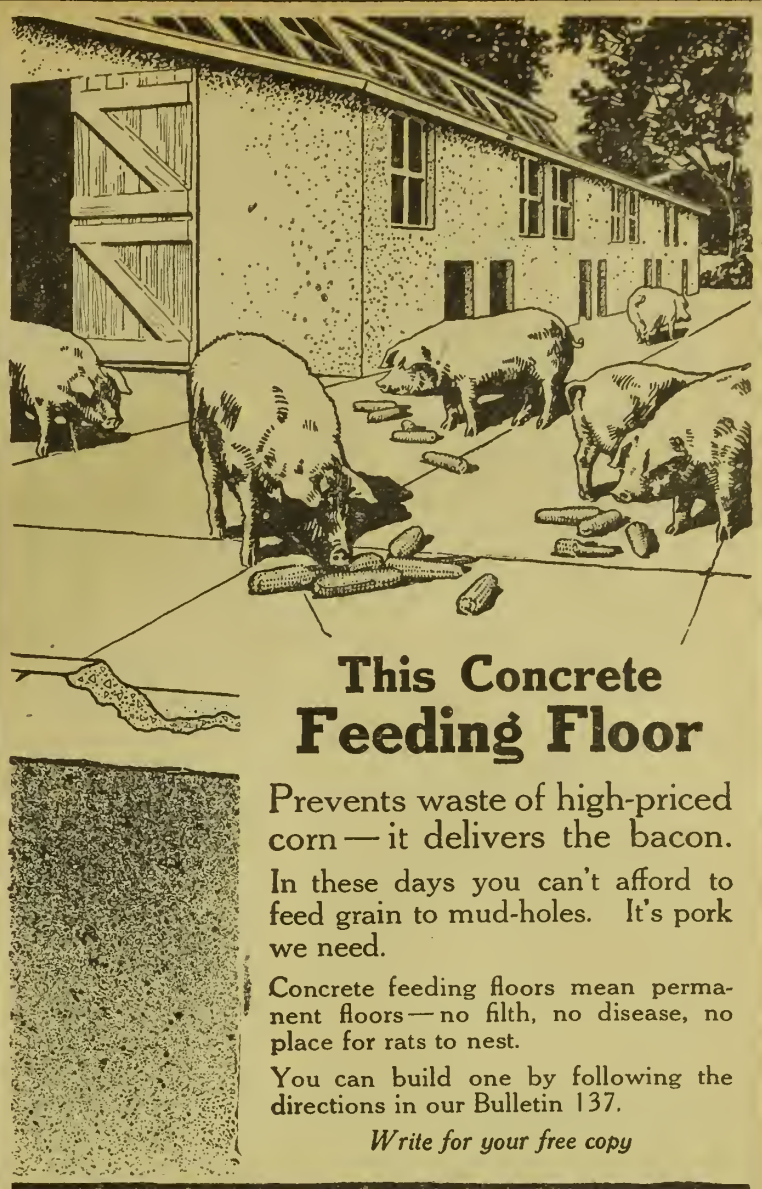

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Non-Partisan League News

Inquiries are still being received about the National Non-Partisan League, mention of which organization has been made in previous issues. As a matter of information to farmers whose support has been solicited by league organizers, we give the following late developments:

Governor Burnquist, of Minnesota, on March 11, gave out to the Associated Press a signed statement in answer to an i vitation which he had received from the secretary of the League, Arthur Le Seure. He charged that the League had at first opposed the entrance of the United States into the war and said, further:

"When it became apparent that this course would result in diaster to their organization they changed their course and made an eleventh hour claim to loyalty, but notwithstanding this claim, the National Non-Partisan League is a party of discontent. It has drawn to it the pro-German element of our state. Its leaders have been closely associated with the lawless I. W. W. and the Red Socialists. Pacifists and peace advocates, whose peace doctrines are of benefit to Germany, are among their number."

Addressing Le Seure, the Governor wrote:

"You, who sign yourself executive secretary of the League, were connected with the People's Peace Council, which, thru my proclamation of August 28, 1917, was barred from meetings in this state, but which was invited to North Dakota by its governor, who was elected thru the votes of your League. The cheering and applauding of the unpatriotic utterances of Senator La Follette at your last convention put a stamp of disloyalty on it that can never be erased. In declining to speak at your party's rally, I wish to say, further, that for me there are, during this war, but two parties, one composed of loyalists and the other of disloyalists."

(It was in St. Paul, the capital of Minnesota and the home of Governor Burnquist, where this convention was held, so the Governor is not speaking from hearsay.)

Another interesting development comes in the publication at Lincoln, Nebraska, a short time ago, by the Nebraska Council of Defense, of a letter written by Harry C. Wilbur of Fargo, N. D., executive secretary of the Rmerican Red Cross for North Dakota, relating to the stand of the Non-Partisan League on the Red Cross and the Liberty loan. The letter is quite lengthy, the chief points being as follows:

"Governor Frazier of North Dakota is the only governor I know of who failed to issue a Red Cross proclamation during the war fund campaign last June.

"Governor Frazier was on the platform at the notorious 'disloyalty day' meeting of the League in St. Paul, at which Senator La Follette made his seditious speech that is now being investigated by a committee of the United States Senate. No public statement of Governor Frazier's disapproval of what happened at that meeting has been made by him, nor, so far as I know, any statement concerning it."

The letter goes on to state that Governor Frazier's first Red Cross proclamation was issued in connection with the Christmas membership drive, and that he was prodded into this action.

Another paragraph from Mr. Wilbur's letter reads as follows:

"President Townley, in a speech at Williston, just ' efore the first Liberty loan was floated, declared that this was a war of the "rotten rich." His hostility to the Liberty loan issues did not cease until after Theodore Weld, Governor of the Federal Reserve bank of Minneapolis, had made public announcement that he had reported Townley to the federal officials at Washington."

The newspapers published early in March, an account of the arrest of Townley and Joseph Gilbert, another officer of the League, on indictments returned by a county grand jury in Minnesota, charging them with inciting resistance to the draft. The alleged offense was committed in a pamphlet on the War Aims of the League, which was widely circulated last summer. The two men were released on bond; Townley's case has since been certified to the State Supreme Court.

Pinto Bean Seed At Cost

Pinto bean seed may be obtained at cost from the Bean Division of the United States Food administration at Denver. The price is $8.80 per hundred pounds f. o. b. shipping point, plus the cost of handling. One million pounds of pintos have been selected from the 42,000,000 pounds so far purchased by the Food administration. This selection is of the best quality, thus insuring fine seed stock for the 1918 planting. The seed is in storage at the following points: 600,000 pounds at Denver; 100,000 pounds each at Greeley and Trinidad, Colo., and Clayton and Aubuquerque, N. M.

O. H. Liebers, in charge of the Pinto Bean Division at Denver, reports recent shipments to the eastern markets as follows: 50 cars to Boston the bean hub of the United States; 50 cars to Philadelphia; 50 cars to New York; 100 cars to Chicago, and 100 cars to St. Louis. The cars are being loaded to the roof, averaging about 100,000 pounds to the car, and some going as high as 110,000 pounds. Nothing but first class recleaned beans are being shipped east. This means that the market is being put on a permanent basis. Farmers can make no mistake by putting out a large acreage of pintos, if their soil and climatic conditions are favorable. The crop is profitable and safe, either on dry or irrigated land.

Big Hereford Sale April 8th

Stock farmers will have an opportunity to pick up some fine registered Herefords at the big combination sale scheduled for April 8th at the Denver Stock Show stadium, when 90 bulls and 90 females are to be offered in the auction ring. The west's leading herds will contribute to the sale, among the owners being John E. Painter & Sons, Roggen; A. B. Cook, Townsend, Mont.; A. J. Campion, Denver; H. Bert Cave, Denver; Dr. T. F. De Witt, Parshall; Davis McConnell Co., Saratago, Wyo.; Canary & Son, Denver. The offerings will include herd herders, range bulls, breeding cows and heifers, cows with calf at foot and an assortment of young bulls and heifers. In fact, there will be all classes and ages of registered Herefords offered.

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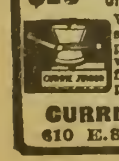

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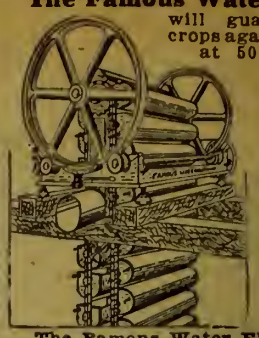

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Colorado-Wyoming Water Suit

Answer to R. E. F., Teller county, Colo., regarding Colorado-Wyoming water suit:

The Colorado-Wyoming water fight has been in the courts a number of years and the matter is now pending in the United States supreme court. No one can tell how long it will be before a decision is reached, and it would be utterly impossible to forecast what the decision will be. The suit arose over the attempt of irrigation companies in Colorado to divert the water of the Laramie river for use in irrigating land in Larimer and Weld counties, Colorado. The Wyoming authorities claim that Colorado does not have a right to the use of this water.

Pinto Beans on Sod

A Kit Carson count subscriber wants information about pinto beans as a sod crop. The following from County Agriculturists will inform him:

My experience and observations is that it is an even break between corn and beans for sod ground. Last year was generally unfavorable for them on sod or even on old ground, but many of those put in on sod last year were planted very late. A favorable year may bring a good return on them and if not favorable the ground is ready for winter wheat and not much is lost by planting the beans.—G. R. Smith, County Agriculturist, Adams county.

The experience of farmers in this county in growing pinto beans on sod ground shows that the pinto beans do well where the ground has been properly rolled and packed immediately after plowing. In general those who did this received good returns from their sod land beans. Some, however, neglected to do this and allowed the ground to lay till it had dried out. The beans planted in this kind of ground failed to come up until the late rains the latter part of July. Harvesting beans on this kind of ground is the problem, as the sod is apt to clog the knives. Unless the ground is plowed deep enough to put the sod below the harvesting knives, the beans will have to be pulled by hand. —Geo. Burckhalter, County Agriculturist, Logan county.

Lawful Colorado Fence

Answer to R. W. M., Washington county: What constitutes a lawful fence in Colorado:

Section 2587. Lawful Fence Defined.—The following shall be a lawful fence in the State of Colorado: A fence of three or more barbed wires, of standard make and usual size, same to be not less than 13 gauge, with posts securely set in the ground not less than eighteen inches in depth, said posts to be not less than three inches in diameter at the point where the top wire crosses the post and set not more than thirty-three feet apart with substanial metal or wooden stay or post every sixteen and one-half feet, top wire to be forty-six inches from the ground, the second wire fourteen inches below the top wire, the third wire to be 12 inches below the second wire, all wires to be tightly stretched and securely stapled, and all corner, end and gate posts to be securely braced; provided, that when posts are closer together than thirty-three feet, they may be smaller in size than as herein provided, but must be of sufficient strength, and stability so that the fence as a whole will offer as great resistance and be as good protection as a fence as herein described; and provided, further that all measures and distances mentioned herein shall be construed as an approximation, and whether any fence conforms approximately to the requirements herein, shall be a question of fact to be determined by the Board of Arbitration or Court which tries the cause, as are other questions of fact.

Post and board fences made of sound posts not less than five inches in diameter, set substantially in the ground not more than eight feet apart, with three boards of one inch lumber eight inches wide and not more than eight inches apart, or four boards one inch thick and six inches wide, not more than six inches apart, securely fastened to each post with nails or otherwise.

A three pole fence with sound poles not less than two inches in diameter at the small end, with posts as hereinabove provided for post and board fences, not more than eight feet apart.

All other fences made of board, rails, poles, wires, woven or smooth wire, stone, hedge plants or other material which shall be as strong and as well adapted to protect enclosures as the above described fences, shall be considered for the purposes of this act a lawful fence; all gates shall be kept in good repair and shall be equally as good as the fence.

Residence on Homestead

Answer to C. W. J., Utah:

1. After I have lived on my homestead the required time, do I have to continue living on same until I make final proof?

Answer: The department has held that it is not necessary for a homestead entryman to continue residence on his land after he has completed his full seven months' residence each year for three years, but he must cultivate the required amount each year until final proof.

2. What right has a volunteer of the Spanish-American war in homesteading?

Answer: A person who served in the Spanish-American war has a right to credit for his service on the residence period required under the homestead law.

Comment by Farmer Putnam

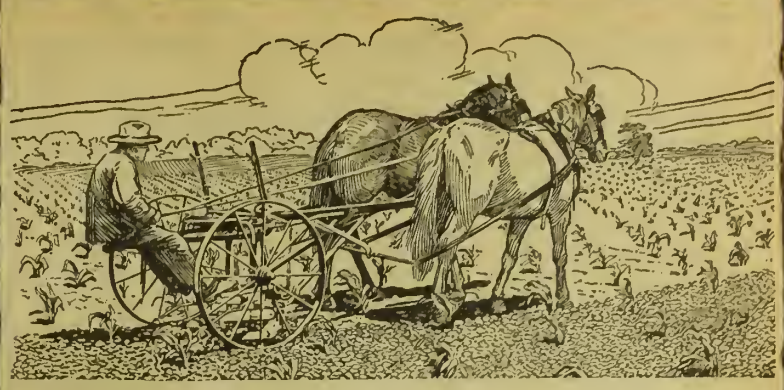
Continued from Page 9

from the bank and pay fur 'em out of the milk money.

Prof. Morton give us a talk in the afternoon about dairy farmin'. He said that America was shippin' out to Europe twenty times as much canned milk as before the war, and that we could look forward to shipping over some foundation stock after the war to help rebuild the dairy industry in Europe. Altogether he sez the outlook is fur continued big demand fur all dairy products.

I reckon they've got about 2,500 cows furnishin' milk fur the Johnstown condensery now, and every cow is doin' her part to help win the war, just the same as them beef cows, only you has to kill a beef cow to git any good outen her, while a dairy cow goes on fur five, seven or ten years puttin' milk in the pail and producin' calves. A good dairy cow is wuth a lot more to this world than a hull dozen of idle poolhall bums, and I feel like apologizin' to the cows fur the comparison. If it wasn't a imposition on Gen. Pershing, I'd be fur sendin' 'em all over to France.

THOMAS JEFFERSON PUTNAM.



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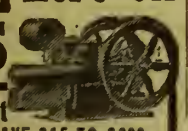

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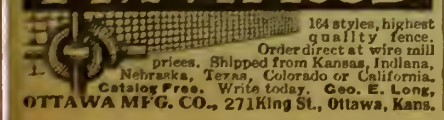

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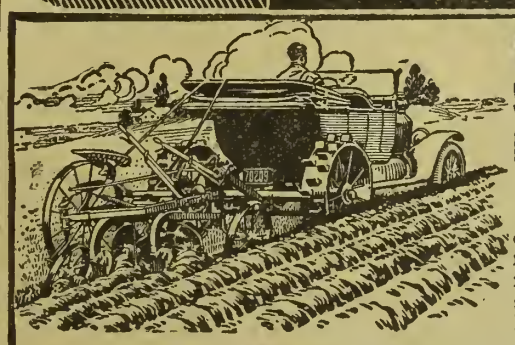

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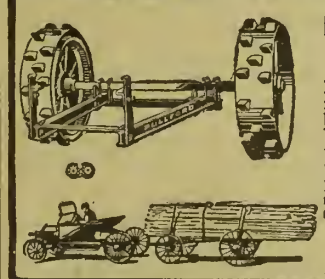

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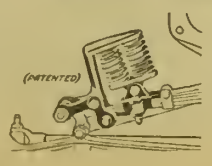

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Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Tuberculosis and the Dairyman

The almost complete annihilation of a first-class herd of dairy cows by tuberculosis has once more raised the question as to the reliability of the tuberculosis test and the general policy of handling dairy cattle in order to keep a herd free from the disease. This discussion of the question will be from the standpoint of the breeder and owner of the cattle, and not from that of a scientist looking towards treatment. There are, of course, a number of diseases which cattle are subject to, that the owner must take precautions against, but the two most serious are contagious abortion and tuberculosis. We have been inclined of late years to regard contagious abortion as the more serious because of lack of knowledge of the disease and lack of means of control.

If, however, a herd of cattle which has been kept under conditions as sanitary as they can be made under practical conditions, a herd that is fed in the open and is tested yearly by a man the accuracy of whose tests are beyond question, can suddenly show, upon the injection of an unusually heavy dose of tuberculin, a large number of diseased animals, we have reason to question our commonly accepted test for the disease. By this I do not mean to raise a question as to animals reacting to the test actually having the disease. It has been proved beyond question that an animal reacting to a properly made tuberculin test is diseased. The accuracy on this point runs to over 99 per cent.

The question at issue is whether the animals in a herd which do not react to the test may thereby be pronounced free from the disease, and there has been no general check on the accuracy of the test in this respect. When animals in a man's herd are pronounced disease free after having failed to react to the test, the owner, of course, is not going to kill them to find out whether they actually are healthy or not. The reaction of certain animals to an extremely heavy dose of tuberculin, when they do not react to the ordinary amount used in making a test, would seem to show that the test does not catch all diseased animals. If this is the case, it looks as tho we would find it necessary to make a test every few years with an extremely heavy dose of tuberculin in order to protect ourselves from animals which may be spreaders and cause the disease to develop in a majority of the animals in the herd before we discovered it. One thing is certain, we must keep watching for the disease and eliminate diseased animals as soon as found.

It astonished me the other day in talking with a dairy cow buyer to find he had a notion that the milk of a tuberculous cow was not dangerous to use unless it were lumpy or clotted when drawn from the cow. I did not suppose that such ignorance with regard to the disease could exist today in any one handling dairy cattle. No one can tell positively when milk from a tuberculous cow is dangerous. A bacterial test to determine whether the bacillus of tuberculosis is present in the milk is a very difficult test to make, and not practical as a means of determining the wholesomeness of milk. All one can say is that there is a possibility of any cow having the disease, transmitting bacteria thru the milk or transmitting it thru the faeces and thereby contaminating the milk, so that an animal having the disease in any stage should be eliminated from the herd. We must continue to use the ordinary tuberculin test, since it is useful as far as it goes, but we must try to see whether there is not something that will give us even greater safeguard.—G. E. M.

English Blood in Berkshires

Berkshire breeders have been interested to note that three sons of Epochal, a senior herd sire at the Gossard Breeding Estates, have sold for ten thousand dollars each. Whether this presages a general adoption of the new blood from imported stock, time alone will tell. It is to be hoped that will be the case, as the perennial policy of intense inbreeding in blood lines, selected out for generations with a view of quality rather than a scale of fattening power, has gradually brought the Berkshire to a place where farmers are repudiating the breed. The infusion of outside blood will increase vigor, and by breaking up the type somewhat, offer greater opportunity for selection of a profitable type of hog.

Mr. Gossard, the owner of Epochal, has a ranch at Axial, Colorado, and maintains some of his English Berkshire stock at that point. Mr. C. W. Henry of Greeley used a son of Epochal last year. The Agricultural college last fall bought a son of Epochal, but later found an opportunity to dispose of their herd and decided to drop out of Berkshires until the American Berkshire Association takes some interest in producing a hog that will be acceptable to the farmers of the state. Mr. Henry, who purchased the boar and some of the best sows from the college, has had for years the best breeding herd in the west, with Cavalier at the head of it, and he has always maintained a profitable feeding type of hog and one that will grow large frames, so that he is now in a position to go ahead with the new blood more rapidly than most breeders. The state, of course, is glad to know that there is being used within its borders a half-brother to three ten-thousand-dollar hogs, but it is still more glad to know that there is a Colorado breeder who has maintained a common-sense idea with regard to a hog and glad, too, that he has secured a boar to head his herd that will not only give

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GREATER CAPACITY: Without increasing the size or weight of the new bowl, its capacity has been increased.

CLOSER SKIMMING: The improved bowl design, together with the patented milk distributor, gives greater skimming efficiency.

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Why not see the nearest De Laval agent at once? If you do not know him, write to the nearest office for new catalog or any desired information.

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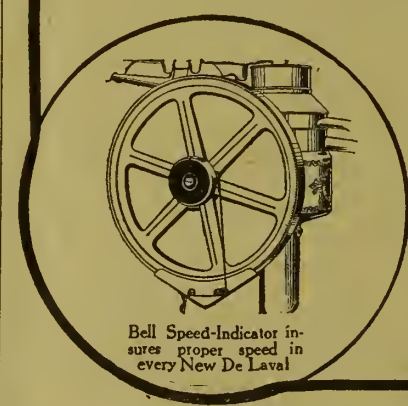

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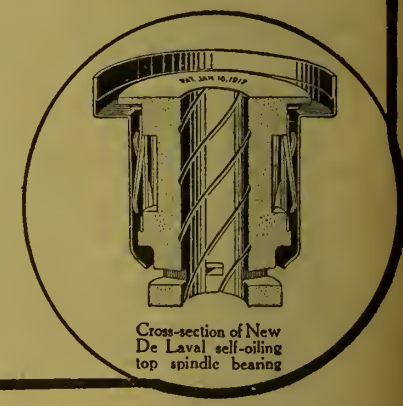

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him an addition of good blood, but is a type that should nick well with our American type. The American breeder is paying more attention to strong pasterns, set of hock and squareness of under-pinning than do the English breeders.—G. E. M.

McGillivray's Poland-Chinas

The writer, in presenting his article on the winnings at the Western Stock Show, failed to note the winnings made by the herd of Mr. A. D. McGillivray, Boulder, Colorado. There was no published list of winnings at the time the write-up was made, so that it was impossible to check the accuracy of the discussion of placings. Mr. McGillvray won two firsts, four seconds and three third prizes. Mr. McGillvray has one of the good, large type herds of the state, and the writer has used blood from his herd in our own breeding herd. I am sorry the oversight in the write-up was made, as we have none too many Poland-China herds of quality in the state. The demand for Poland-Chinas is greater than Colorado breeders have been able to supply so far, and there is opportunity for a number of new breeders to work up a business rapidly by taking up breeding of pure bred Polands.—G. E. M.

Pigs Need Grain Feed

Answer to E. S., Lehi, Utah:

There is no breed of hogs that will prove profitable running on range grass with no other feed. You can produce shoats weighing sixty to ninety pounds at six months of age, running them on alfalfa without grain, but this is entirely too light a weight, and some grain should be fed to growing pigs while they are on alfalfa pasture. One per cent of their live weight per day is an amount of grain which will keep them growing in good shape, and that probably is the most profitable percentage to feed with present high prices of grain. You will find Duroc-Jerseys or Poland-Chinas most satisfactory for your purposes. There are other breeds satisfactory in other sections, but these have proved the best in our western country. The Chester White is one of the heaviest breeds, but a white hog sunscalds in the mountain region. Of the two breeds named the Poland-China is somewhat heavier at maturity.

The only way to keep lice from your herd is by using some dip or oil, either dipping the hogs in a vat or making a shell cement pool in which water is kept mixed with a dip which will kill nce. Hog oilers may be used, or a home-made one can be made by setting a post in the ground and wrapping it with gunny sacks which are kept saturated with oil. For this type of rubbing post, a mirture of two-thirds crude oil and one-third kerosene is the best.

A thousand-pound horse will eat about 30 pounds of timothy hay or 35 pounds of alfalfa, if given access to it. A horse can get along with about 30 pounds of alfalfa fed in the stall.

Duroc-Jersey Futurity

The Colorado Duroc-Jersey Swine Breeders' Association decided at their annual meeting held at Colorado Springs to hold a "futurity" at the Colorado 1918 State Fair in Pueblo, September 23 to 28. They will post $400 for prizes in the futurity and there must be at least 20 breeders entered in order to insure the futurity. There will be no difficulty about obtaining the required number, as the association members agreed to see that it was filled. J. L. Beaman, manager of the state fair, attended the Colorado Springs meeting. Upon his return he stated that the Duroc-Jersey breeders were well represented at the meeting and were enthusiastic boosters for the state fair. Breeders were present from all parts of the state.

Potato Production Under Semi-Arid Conditions

Continued from Page 5

down a single inch too much (the margin of safety is only about 2 inches) the small, half-grown tubers will ripen, and when the next rain comes they will sprout and the whole crop will be ruined.

The only preventive is to plow in the fall and conserve plenty of moisture. Dry farming is farming for the future. What you do this year—especially deep plowing—counts, and has its effect on every succeeding crop for a number of years, and the cumulative result of good work every year is a soil that will always grow crops regardless of the precipitation.

The right time to plant potatoes depends, of course, on the altitude. Round about Denver and the plains country the Early Six Weeks may some years be planted as early as April 1st and will make nice new potatoes by July 4; but this is about 2 weeks too early if you wish to be on the safe side. There is this to be said, however, that the sprouts even of volunteer plants seldom come thru so early as to be caught by frost

The spacing depends on the season and the depth and fertility of the soil. In ordinary land plowed 8 inches deep (the usual thing but much too shallow for potatoes), the rows should be about 36 inches apart and the potatoes 24 inches in the row; but under optimum conditions this may be reduced to 18 inches in the row.

Some varieties of potatoes seem to take to certain districts better than others, and in planting this crop it is always advisable to consider the testimony of the neighboring farmers, or else to experiment before planting a large crop. For early—the Early Six Weeks, Early Ohio, Early Red Rose and White Rose and Bliss Triumph—are largely used. For late—Rurals, Peach Blows, Russets and Burbanks.

Potatoes like flax and other crops are subject to diseases, particularly blight. t does not bother the grower who takes precautions. Preventive measures are best, for once it attacks a crop the yield is certain to be reduced; altho some of the damage may be averted by prompt spraying with Bordeaux mixture.

The blight is a mildew, minute fungi which send their roots down into the pores, and prey on the leaf and stems. The spores or seeds are in the dirt, invisible to the eye, and the wind lodges them on the leaves. A drop of water or dew starts them, and they grow and produce more spores in a very few days and infect the whole crop. Rotation is the best preventive, and disinfection of the seed comes next.

Predisposing causes are heat and moisture at the same time, the using of too much green manure and the planting of southern potatoes, which are not as blight resistant as the northern or mountain grown.

If you run your household on three pounds of sugar a month per person, when fall comes the grocer won't have to hang up the sign, "No Sugar."

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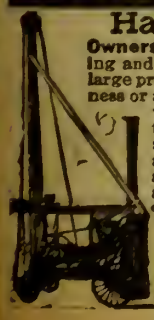

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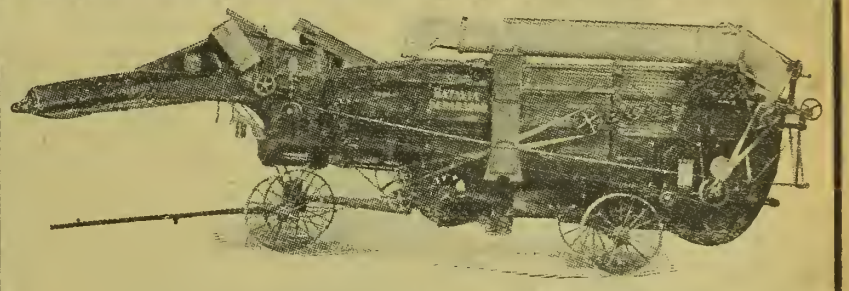

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The Bidwell, Jr., Bean and Pea Thresher is built for individual and co-operative users, and for districts where machines of large capacity are not necessary, or where the character of the country makes it difficult to move the heavier machine. Designed to thresh beans and peas, but will also thresh oats, wheat, buckwheat and grains of like character.

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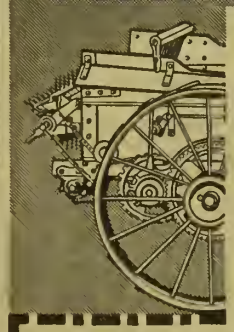

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All steel frame; extra strong construction.
Lightest draft—roller bearings for rear axle and beater, three sets apron rollers.
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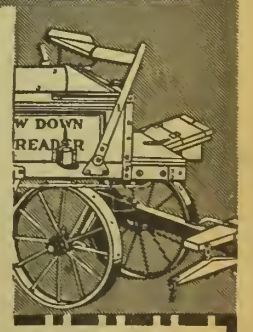

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

FROM HOME ACRES

A sense of pureness in the air,
Of wholesome life in growing things,
Trembling of blossom, blade and wings,
Perfume and beauty everywhere—
Skies, trees, the grass, the very loam,
I love them all; this is our home.

Million on million years have sped
To frame green fields and bowering hills;
The mortal for a moment tills
His span of earth, then he is dead;
This knows he well, yet doth he hold
His paradise like miser's gold.

I would be nobler than to clutch
My little world with gloating grasp;
Now, while I live, my hands unclasp
Or let me hold it not so much
For my own joy as for the good
Of all the gentle brotherhood.

And as the seasons move in mirth
Of bloom and bird, of snow and leaf,
May my calm spirit rise from grief
In solace of the lovely earth;
And though the land lie dark or lit,
Let me but gather songs from it.

—Atlantic.

"Soldiers of the Commissary" are we, the housewives, termed by the U. S. Food administration at Washington, D. C., and a letter recently received from the administration, tells us of the change in the restrictions on meat. Tuesday is still porkless and beefless, but all other meatless meals are temporarily suspended, as are all restrictions on mutton and lamb, this change having been made necessary by the unexpected surplus of meat supplies which is the product of a variety of factors.

We hope in these columns to help follow directions for saving and be ready to meet all changes and to as cheerfully obey rules when restrictions are restored.

The above mentioned letter also states that the wheat situation is acute and that we can do no better service than to keep this fact constantly in mind until next harvest, as America must reduce consumption of wheat and wheat products one-third.

It is the sincere wish of the editor of these columns to co-operate with the U. S. Food administration and, together with our readers, to make it our privilege as well as duty to devote ourselves to the task before us—the defeat of the Huns by helping Hoover. These columns must, so far as possible, give answer to inquiries as directly as possible. New conditions will arise and as a trained army of willing workers we are asked to stand ready and change kitchen tactics as food conditions change. The Food administration congratulates us on our response to the call to save the meat whereby an acute famine in Europe has been averted by the narrowest margin. The March shipments, it is hoped, will make the deficiency and relieve the strain for our Allies. With an increased allowance of meat, the housekeepers can readily decrease the allowance of bread and thus send plenty of wheat to our Allies.

Concentrate on our present task, which demands the free use of mixed cereal bread and of such bread substitutes as potatoes, hominy and rice, and most of all, less bread.

Oatmeal in Victory Breads

In the list of wheat substitutes posted at the grocers, cornmeal, oatmeal and barley flour represent the big grain crops of America, and with the clearing up of transportation they should be available in most localities.

As a wheat substitute oatmeal possesses several advantages. It can be obtained easily and if bought in bulk is not much higher in price than flour. Rolled oats or oatmeal will absorb more water than wheat flour and retain it longer. For this reason oatmeal bread keeps fresh longer than wheat bread. The oatmeal loaf has a greater nutritive value than even the straight wheat loaf, and its sweet, nutty taste commands instant favor.

Sandwiches of oatmeal bread and butter need no addition of meat to please the children. A few hickorynut or walnut meats added convert oatmeal bread into a special treat.

Oatmeal Bread

1 quart water
1 or 2 cakes compressed yeast or ½ cake dry yeast
4 teaspoons salt
2 tablespoons molasses
3 cups rolled oats
8 cups wheat flour

Mix as follows: Soften the yeast in ½ cup of the water (lukewarm). Heat the rest to boiling, then stir in the rolled oats. Let it boil up once. Cool, add the salt and syrup, and when lukewarm add the softened yeast. Then add the flour to make a stiff dough. Mix and knead thoroughly. Let rise 3½ hours or until double in bulk. Knead or cut down the dough, add the remaining flour and let rise again until double in bulk (about 1½ hours). Shape into loaves. Let rise in pans until double in bulk. Bake 50 minutes to one hour.

If dry yeast is used make a sponge as follows: Soften the yeast in ¼ cup of water. Heat the rest to boiling. Stir in the rolled oats and boil up once. Cool, add the softened yeast and one cup of flour. Beat well and let rise over night.

Oatmeal Muffins

1 cake yeast
¼ cup lukewarm water
2 tablespoons syrup
2 tablespoons fat
1 cup hot milk
1 cup rolled oats
½ cup whole wheat flour
½ cup sifted white flour

Boil oats and fat in milk one minute. Let stand until lukewarm. Soften yeast in lukewarm water and add syrup. Combine the two mixtures. Add flour and salt, and beat well. The batter should be thick enough to drop heavily from the spoon. Cover and let rise until light, about one hour, in a moderately warm place. Fill well-greased muffin pans two-thirds full. Let rise about 40 minutes. Bake 25 minutes in a moderately hot oven.

"The Peace Offering"

"I know what will change mother's mind"

—nothing has solved household problems like Calumet Baking Powder. It has brought happiness into millions of homes—made expert cooks of millions of housewives who never had much bake day "luck."

Its unequalled leavening and raising powers mean big, tempting bakings. The never-varying quality of its wonderful ingredients means the same good results *every* bake day.

Calumet saves you money because it's moderate in price, goes farthest, eliminates failures and waste. It's pure in the can—pure in the baking—and the favorite in millions of homes.

Received Highest Awards

New Cook Book Free—See Slip in Pound Can.

Great Majestic

"The Range with a Reputation"

"My Range always bakes right."

The Majestic is the pride of over half a million house-wives. For them, it has made good baking results sure; it has saved fuel and repairs; it has saved work. It has proved, too, that the highest-quality range is the lowest-cost range in actual service.

Two New Features

The new burnished blue polished top makes "blacking" a task of the past. Not a surface finish; it is *burned* into the iron.

The new smooth nickel trimmings are riveted on, permanently tight, from the inside—both outside and inside are smooth—no bolt heads or nuts to catch dirt. See these new labor-saving, beautifying features at the Majestic dealer's. Learn why the unbreakable malleable frame and rust-resisting charcoal iron body give the Majestic three-times longer life than the ordinary range.

One quality, many styles and sizes with or without legs.

There is a Majestic dealer in every county of 42 States. If you don't know of one near you write us. Send for free booklet, "Range Comparison"; it tells what to look for in buying a range.

The Majestic Manufacturing Co., Dept. 231, St. Louis, Mo.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo

2408—For House or Porch Wear. Cut in sizes 34, 36, 38, 40, 42, 44, and 46 inches bust measure. Requires 5¾ yards 44-inch material for 38-inch size. You will want this pretty model. It is lovely for percale, gingham, seersucker and lawn. It will make a smart, little dress for business or outing, in appropriate materials.

Waist 2399. Skirt 2411. A stylish Gown—The waist is cut in sizes 34, 36, 38, 40, 42, and 44 inches bust measure. The skirt in sizes 22, 24, 26, 28, 30 and 32 inches waist measure. For a medium size the dress will require 7 yards of 36-inch material. Blue serge and black satin could be combined for this, or shantung with pipings of a bright color. Brown voile with trimming of white Georgette crepe, would be nice.

2416—Set of Short Clothes. Cut in sizes 6 months, 1 year, 2, 3, and 4 years. The dress will require 2 yards of 36-inch material. The petticoat 1⅝ yards; the drawers 1¼ yards. The dress is ideal, in that it is comfortable, neat and easy to make. The sleeve, cut in one with the body portions, may be finished in wrist or elbow length. The slip petticoat could do duty as a dress for warm summer days. The drawers are cut on comfortable, loose lines. One could use lawn or nainsook for all of these garments, or make the dress of dimity, batiste, crepe, linen, pique, voile or cashmere.

2398—Comfortable Little Dress. Cut in sizes 2, 4, 6, and 8 years. Requires 2½ yards 36-inch material for 4-year size. This dress is easy to develop, and nice for all sorts of materials. You may have it with the sleeve in wrist length or with a short, elbow sleeve. Gingham, percale, chambray, gabardine, serge, linen or pique will be nice.

Fine China and Glass
From Open Stock

Samples sent to any responsible person at our expense and risk.

English, French, and American.

Floral and conventional decorations in dainty colors and formal white and gold.

Carson Crockery Company, 234 15th Street, Denver

Tell as nearly as possible what you like and about what price.

CATALOGUE NOTICE

Send 10c in silver or stamps for our Up-to-Date SPRING AND SUMMER, 1918 CATALOGUE, containing 550 designs of Ladies', Misses' and Children's Patterns, a CONCISE AND COMPREHENSIVE ARTICLE OF DRESS-MAKING, ALSO SOME POINTS FOR THE NEEDLE (illustrating 30 of the various, simple stitches) all valuable hints to the home dressmaker.

Delicious Chicken

Fowl will go much farther if boiled or stewed, therefore choose a good-sized hen. It is not economy to use the small fowl. In cooking do not let the water boil, but cook six or seven hours without salt until the meat is tender. For Sunday dinner, do this on Saturday, set aside to cool uncovered, skim and add vegetables, seasoning and dumplings on Sunday, cooking only long enough to cook the vegetables and dumplings.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Baby Chicks and Their Feed

ie reason so many people who go the poultry business fail, is not be- e the problems in that business are e difficult of solution than those of y others, but because of the fact there are so many factors to be in poultry raising so nearly equal mportance that the failure to care- r meet each one may spell failure. very many details, each one small apparently insignificant, but all im- ant in the end, finally get the best he man unused to a business made f endless details.

ie poultry business is something like war business. One man says, "guns win the war"; another, "food will the war"; another, "money"; another, ps"; another, "coal," etc., etc. All right to a certain extent, but no one hese things can do the work, all are e or less equally important. One says breed, another feed, another cise, another something else is the factor in poultry raising, but it is ossible to prove that any one of ral factors is the BIG IT; that pro- ncy in any one detail is a guarantee success. A working knowledge of y subject connected with the busi- of raising poultry is absolutely ssary if one is to be successful, and ietail may be considered too trivial e carefully attended to.

the care of young chicks a good t is half the battle. The first few of care often and usually do decide eventual value of the brood. Chill- or feeding musty or spoiled feed may weaken or demoralize a brood of ks as to seriously and permanently ole their growth and development even their future value as producers. person who is especially and even iously careful and conscientious the week of the baby chick's life, may ore or less neglectful later without us damage, but negligence the first can never be fully remedied. Na- provides bountifully for the chick's few meals. Warmth and rest and ling are the chief needs the first of two. When practicing artificial bation, usually many of the chicks twenty-four or forty-eight hours old re all are hatched, so that some are hungry before those last hatched ready to eat. A chick will not eat re it is good and ready, so there is anger in feeding at any time so long hey are not forced to eat. They should be left with their feed only a very short time the first few days, then quickly put under cover.

GRAINS—The first feed may be finely cracked grain, sifted ground oats or oatmeal or stale bread soaked in milk. A good place to feed for the first few days is on clean sand, later a trough for the wet feeds and litter for the cracked grains. The plan of having a hopper of feed before them all the time is insurance against hunger, even if the regular feeding time is forgotten. The hopper should contain a variety of ground grains, the greater the variety the better, viz.: bran, cornmeal, sifted ground oats, sifted ground barley. The hulls of such grains as oats and barley should be taken out. Bran alone may be used to good advantage, especially where corn is largely used in the grain ration. Even when such a mash is available all the time, the chicks will enjoy a wet mash of the same grains, at least once a day. Variety stimulates growth and the scratch feed should consist of two or more grains, if possible. The principal feeds should be cracked wheat and cracked corn. These will be sufficient if some variety is found in the mash. A chick enjoys a change in its rations almost as much as does a child, therefore, it may seem advisable to feed the wheat one time and the corn another, instead of mixed. Oatmeal, though it may seem high in price, may be fed profitably once a day the first two or three weeks; the cost will not be more than one cent per chick.

A Johnny cake made of the materials used in the mash mixed with milk makes a welcome change. This can be fed in chunks to be picked to pieces by the chicks. Boiled eggs, those showing infertility during the period of incubation, are always good and are greatly relished.

GREENS—The nearer we can come to providing the feeds found on the range during the early summer, the better our success will be with chicks. Better than any lesson found in a text book is the lesson one can learn from the mother hen. Watch a hen as she leaves her stolen nest with her new family; some are very hungry, others don't care whether they eat or not. Probably the hungriest one is the mother, but at any rate she starts out to feed her family. Too bad she hasn't a clock or a calendar, but perhaps just as good is nature's call. The first bit of food this family comes across is greedily swallowed; maybe sand has been stowed away first, I don't know; but never a worm, bug, seed or grain escapes, nor is the order of the courses observed. Those that are hungry fill up, the others poke along behind, look on and apparently enjoy it all; there seems to be variety, grain, animal food, greens. Those that are thirsty drink, and anything wet goes. Many times I have heard the statement made, that the old hen that stole her nest has raised the best chickens of the season.

There is never a lack on free range of greens. This, the cheapest of all feeds should be liberally supplied to chicks penned up. Anything tender and succulent goes, and there is no excuse for not furnishing plenty of a variety. Cabbage, sprouted oats, lettuce, onion tops and roots of all kinds. Boiled potatoes, especially this present season, may well be fed liberally and if such a thing is possible that no other greens are available, raw potatoes are not bad. Needless to say the greens should be fresh and tender.

ANIMAL FOOD—Something to take the place of the bugs and worms of free range should be provided. The most easily obtained substitute is milk—any and all kinds. Probably the best meat feed, from many standpoints, is commercial beef scraps, but when milk can be had there is no need of anything else in the way of animal food. The chick furnished milk from the first to the last meal of its life, will most likely be the healthiest, quickest growing, most active, best laying and with its last breath leave the nicest carcass of the lot. Sour milk and buttermilk are good, not only because of their food value, but because they are medicinal in a small degree. Feed milk in the mash and in the open vessel; feed it every day and to the limit.

Get the Best Incubator

for Mother, the girls and the boys. Exceptional opportunity this year to make big money. Prices for Poultry and Eggs High and Feed Cheap. Our Big Instructive Book FREE!

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arn how other women make hundreds of dollars on a little plot of ground. Help win the war. ease the Poultry supply. The Government tells to utilize scraps and waste—tops of vegetables, es, etc. These make best poultry feed. All this in Big Sure Hatch Book. Begin early and right. It's free, write today for this valuable information

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Nests won't cost you 1c Your hens will pay for them in More Eggs

DSON steel proof Nests wonderful sanitary at a lifetime, Satisfaction Guarantee. The illustration shows our leader—6 Nest Set. Cost Less Than Wood Nests. Over 25000 in use. Don't Wait, Make Big Money on Poultry. Write

SEAMAN-SCHUSKE METAL WORKS CO. MANUFACTURERS ST JOSEPH, MISSOURI BOX 219

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reader of this paper who will write P. J. the Poultryman, at 70 N. 2nd st., apolis, Minn., will receive a free copy of ew booklet, "White Diarrhoea in Baby s." It tells how to prevent, remedy and the whole hatch. It's free and this paper you to write for it at once.

TELLS WHY CHICKS DIE

J. Reefer, poultry expert of 424 fer Bldg., Kansas City, Mo., is ing away free a new book which s of a simple home solution that es 98 per cent of all chicks hed and cures white diarrhoea r night. All poultry raisers should te for this valuable free book.

Lively Competition at the Johnstown Dairy Show

Continued from Page 3

vis, first; J. W. Purvis, second. Jersey—J. D. Pancake, first; J. D. Pancake, second.

(Over 1 and under 3 years)

Holstein—Royal Webb, first; S. P. Crowley, second. Guernsey—J. W. Purvis, first; J. W. Purvis, second. Jersey—J. D. Pancake, first; William Schmaljohann, second.

(Under 1 year)

Holstein—Mike Krieger, first; Frank Darlington, second; Guernsey—J. W. Purvis, first; J. W. Purvis, second. Jersey—J. D. Pancake, first; J. D. Pancake, second.

GRADE HERD

(Headed by pure bred bull; cow 3 years old; heifer 2 years; other two females any age; 5 in herd.)

First—S. P. Crowley, Holstein; second, Frank Darlington, Holstein.

Best grade or pure bred heifer raised by boy or girl—First, Vernon Purvis; second, W. A. Purvis, owner.

Pure bred or grade cow producing most butter fat—First, J. W. Purvis, Guernsey; second, J. W. Purvis, Guernsey; third, Sid Gray, Holstein.

GREAT WESTERN SUGAR CO.

Best pure bred Holstein herd of five—Frank Little.

Best grade Holstein herd of five—S. P. Crowley.

Best pure bred Jersey herd of five—J. D. Pancake.

Best pure bred Guernsey herd of five—J. W. Purvis.

EMPSON PACKING CO.

Best pure bred Holstein bull, 2 years old—Frank Little.

SPECIAL PRIZES—BEST FITTED HERD

First prize, by Great Western Sugar Company—J. W. Purvis, Guernsey.

Second prize, by First National Bank, —Frank Little, Holstein.

Grand champion cow, T. M. Callahan cup—Frank Little, Holstein.

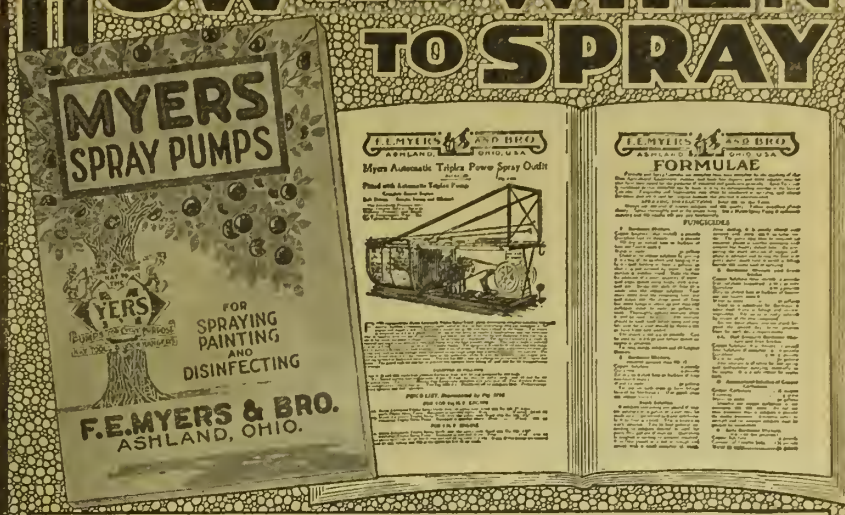
FOR BEST INCREASE IN MILK

S. P. Crowley, first	$ 50.00
J. D. Pancake, second	40.00
Ralph Harris, third	30.00

The division of the prize money was as follows:

J. W. Purvis	$181.00
J. D. Pancake	121.00
S. P. Crowley	92.00
Frank Little	74.00
Ralph Harris	35.00
W. A. Purvis	29.00
Sid Gray	18.00
Frank Darlington	11.00
Lohry & Wailes	6.00
Bender, E. J.	5.00
Mike Krieger	5.00
Royal Webb	5.00
William Schmaljohann	3.00
Total	$585.00

HOW AND WHEN TO SPRAY



Those fruit trees of yours—those vines, bushes and shrubs—those garden plants and vegetables—how about them? You are certainly going to spray this year so that your fruit and vegetable crop will be right up to the limit. This year, of all years, bins must be filled, cans and jars must be used, markets supplied, and every bit of food preserved in some way for home consumption next winter.

This issue can't be side-stepped. You can't say next fall, "If I had only of sprayed." This excuse will be a shallow one. The thing to do is to get ready right now and when the time comes, do like the professional fruit grower or gardener, get a good Spray Pump—a MYERS if you please, and use it—a Myers Knapsack, Bucket, Barrel or Power Pump, according to your spraying requirements, for the MYERS line is a big and proven one, and all styles are fully guaranteed and will give excellent spraying service.

Note illustration of the new Myers Spray Pump Catalog—No. SP18—64 pages—showing the entire line of Myers Spray Pumps and Spraying Accessories and chuck full of reliable spraying instructions and late formula for spraying mixtures—Write today for a copy and name of our nearest dealer, and Spray Myers Way.

F.E.MYERS & BRO. 140 ORANGE ST. ASHLAND, OHIO.

10,000 DAY-OLD CHICKS 40,000 EGGS FOR HATCHING

S. C. White LEGHORNS The Famous TOM BARRON Egg Machines--282 Egg Blood

Our Leghorns are range-raised, strong, healthy and vigorous. Tested 8 years for heavy egg production. Sure winners at the egg basket. Why not come to headquarters for bred-to-lay Leghorns? They will cost you no more. Highest quality—lowest price. Get our big free price list before you buy eggs, chicks or stock. Write

THE FOWLER EGG FARM Fowler, Colo.

Farmers' and Stockmens' Exchange

Advertisements will be inserted in this department for 5c per word; four or more insertions, 4c a word each insertion. Remittances can be made by postoffice money order or personal check. Advertisements are set in uniform style, no display type or illustrations admitted under any circumstances. Every figure and initial counts as one word. Guaranteed circulation over 50,000 copies each issue. WESTERN FARM LIFE is issued semi-monthly the first and fifteenth of each month. Advertising copy for this department must reach us ten days before date of issue. It carries the most classified advertising because it gives you best results. Send us in a trial advertisement. Write for proof showing how these columns pay advertisers.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

LEGHORNS

PUREBRED SINGLE COMB WHITE LEGHORN Eggs, 100, $5. Chas. McFadden, Morland, Kans.

S. C. BUFF LEGHORNS, HEASLEY'S EGG Basket strain. Mrs. J. W. Kyffin, Fowler, Colo.

L. B. RICKETTS, BREEDER OF PRIZE WINning Single Comb White Leghorns, Greensburg, Kans.

SINGLE-COMB BROWN LEGHORNS — EGGS prepaid. 100, $6.00; setting, $1.50. Chas. Bowlin, Olivet, Kans.

SINGLE COMB BROWN LEGHORNS, WINNERS of the blue in four states. Eggs $6.50 per 100. Wm. Roof, Maize, Kans.

EGGS FROM LARGE SINGLE COMB WHITE Leghorns on free range, laying breed, $6.00 per 100. Alvin Westwood, Waco, Neb.

SINGLE-COMB BROWN LEGHORNS. BEST quality. Heavy winter laying strain. Free circular. Mrs. D. A. Wohler, Hillsboro, Kans.

BARRON S. C. WHITE LEGHORNS. BABY chicks. Hatching eggs. Satisfaction guaranteed. F. B. Morger, Fowler, Colo., R. No. 1.

CHOICE S. C. W. LEGHORN COCKERELS—eggs and chicks in season, from extra layers. Mrs. Geo. W. Stephens, R. No. 4, Lexington, Neb.

HEWITT'S S. C. BUFF LEGHORNS—GREATest layers on earth. Eggs, $2 per 15; $5 per 50; $7.50 per 100. Mrs. Philo J. Hewitt, Lexington, Neb.

SINGLE COMB WHITE LEGHORNS; HEAVY winter layers; 13 years in the business; hatching eggs, day-old chicks. Riverside Poultry Farm, H D. Walker, La Junta, Colo.

BUFF LEGHORNS—BEST LAYERS ON EARTH Hatching eggs from Hoganized yearlings, $1.50 setting. Chickens hatched in April will lay in October. Champney, 25 South Logan, Denver.

PURE BLOOD SINGLE COMB BROWN LEGhorns. Setting eggs from healthy range flock, $1.25 per 15, $6 per hundred, prepaid. Order today. C. O. Johnson, Boyero, Colo.

CHICKS, WHITE LEGHORNS, APRIL 15-27 AT once 18c, prepaid. Henry Mehl, Lorraine, Kans.

UNIVERSITY PARK POULTRY RANCH—BABY chicks and hatching eggs. Thorobred Single Comb White Leghorns exclusively. Write for circular. 2520 South Clayton, Denver, Colo.

EXTRA GOOD SINGLE COMB WHITE LEGhorns, pure white, low-tailed, males mated to heavy laying females. Eggs $5.00 per 100; setting $1.50. Order now. E. D. Allen, Inland, Neb.

S. C. BROWN LEGHORNS—DAY OLD CHICKS $15.00 per hundred. Eggs $5.00 per hundred; $1.00 per setting. Mammoth Pekin Duck eggs $1.00 per setting. W. L. White, Altamont, Kans.

SINGLE COMB BUFF LEGHORNS—Eggs from daughters of 200-240 egg dams mated to sons of 200-260 egg dams. Trap-nested. $1.50 per 15; $7.00 per 120. Chicks hatched to order. Pearl Haines, Rosalia, Kans.

PLYMOUTH ROCKS

WHITE ROCK EGGS $1.00 PER SETTING. Cockerels $3.00. Mrs. J. W. Gaston, Larned, Kans.

BARRED ROCKS. BABY CHICKS. HATCHing eggs. F. B. Morger, Route 1, Fowler, Colo.

BARRED ROCK COCKERELS. BIG BONED. Egg strain, $3.00. Mrs. A. E. Huff, Lancaster, Kans.

PARTRIDGE PLYMOUTH ROCK EGGS. MY birds are better than ever. Jno. W. Norton, Talmage, Neb.

BRILLIANT BARRED ROCKS, ANNUAL STATE show winners. Eggs, 15, $2; 45, $5; exhibition pens, $5. C. D. Swaim, Geuda Springs, Kans.

WEIGHER-LAYER BARRED ROCK EGGS. Pens $3.00 to $6.00. Utility $6.00 per 100. C. F. Fickel, Earlton, Kans.

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WINTER-LAYERS—BARRED PLYMOUTH Rock Eggs $1.00 per 15; $5.00 per 100. Mrs. Lon Edwards, 1105 Garfield ave., Loveland, Colo.

GRAND, GENUINE, IMPERIAL "RINGLETS." Direct from the man who originated them. Eggs $4.00 per setting, either mating. Big boned splendid cocks $4.00. Three for $10.00. Mrs. Iver Christenson, Jamestown, Kans.

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PARTRIDGE PLYMOUTH ROCKS — THE beauty and utility breed; stock for sale that are prize-winners. Pullets, $2; cockerels, $3 to $5 each. Eggs for hatching, $1.50 and $3 for 15 eggs. Satisfaction guaranteed. A. R. Stover, Manzanola, Kans.

BARRED ROCKS, BIG WINNERS AT STATE Show, Wichita, 1918. Excellent winter layers. Large, handsome birds with narrow fancy barring to skin. Send for mating list, describing birds and choice pens mated for the egg trade. Geo. Sims, LeRoy, Kans.

PRIZE WINNING "RINGLET" BARRED Rocks. Eggs, range flock (dark line) headed by males worth $5.00 to $10.00 each; setting $2.00; $6.00 per 50; $10.00 per 100. Pens, dark $5.00 setting; light, $3.00 setting. Jos. V. Beran, Verdigre, Neb.

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BUFF ORPINGTON EGGS—WRITE FOR prices. Leo. Anderson, Juniata, Neb.

PURE BRED SINGLE COMB BUFF ORPINGton cockerels $3.00 to $5.00. Eggs $1.50 per 15. Mrs. P. Nelson, Kimball, Neb.

SINGLE-COMB BUFF ORPINGTON COCKERels; best breeding and great size, $5.00 each. Sunflower Ranch, Ottawa, Kan.

S. C. BUFF ORPINGTONS—TRAPNESTED layers, prize winners at leading Colorado shows. Eggs for hatching. Circular free. F. M. Shank, Route No. 2, La Junta, Colo.

S. C. BUFF ORPINGTONS—EGGS, $2 FOR 15, or $7 per 100, postpaid. Mrs. S. S. Tate, Orlando, Okla.

WYANDOTTES

LAYER-PAYER SILVER WYANDOTTE EGGS, 15, $1.50; 100, $6. Irve Wright, Clifton, Kans.

WHITE WYANDOTTE EGGS FROM TRAPnested stock. Mary M. Wright, Route 2, Boulder, Colo.

WHITE WYANDOTTES—EGGS $3.00 AND $1.50 per 15; $4.00 per 50; $7.00 per 100. Miss Anna Lansdown, Ft. Lupton, Colo.

CHOICE WHITE WYANDOTTE EGGS AND chicks; good laying strain. Eunice E. Stephens, Lexington, Neb., R. No. 4.

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SINGLE COMB RED COCKERELS. J. C. Malone, Lyons, Kan.

"RED-CLOUD" R. I. REDS. R. C. SETTING eggs—S. C. E. O. Swedberg, Denver, Colo.

SINGLE-COMB COCKERELS, SCORE 88 TO 92, by Scott. Write for prices. S. P. Childs, Herington, Kans.

ROSE COMB RED EGGS FROM WINNING Denver Stock Show strain. Get my prices now. C. E. Dewey, Ft. Morgan, Colo.

ROSE COMB REDS—THREE YARDS. NEbraska State Show prize winners; mating list free. Grace L. Andrews, Miller, Neb.

FREE—MATING LIST READY. ISRAEL'S Quality Plus Single Comb Rhode Island Reds. Get it. Lou R. Israel, Osceola, Nebr.

HARRISON'S NON-SITTING SINGLE COMB Reds. (250 egg strain). Mating list for customers. Robert Harrison, Lincoln, Nebr.

LOWER'S POULTRY FARM, ARVADA, COLO., is the oldest and largest breder of reliable Single Comb Reds in the West. Send for circular.

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BEAN STRAIN R. C. REDS, BRED FOR EGGS and color. Eggs, $3, $5 per 15; chicks, 25c. Mrs. L. G. Lambert, Anderson, Mo.

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QUALITY DARK CORNISH—MATING LIST. R. H. Jandebueur, Alma, Neb.

DARK CORNISH FOR SALE—MATED TRIOS, pens and single birds; big winners at all Denver shows. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

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SINGLE COMB BLACK MINORCAS. I HAVE a fine lot of cockerels for sale. Also year-old hens for mating, eggs and baby chicks. Reasonable. Write for prices. H. R. Suydam, 4500 Bryant St., Denver, Colo.

SUSSEX

RED SUSSEX—LIMITED NUMBER EGGS AND few females for sale. Won at Chicago Coliseum in 1916 and 1917. Rees Evans, Box 29, Ardmore, Okla.

BRAHMAS

THOROBRED LIGHT BRAHMAS. SETTINGS for sale. E. Grosser, 2240 Perry St., Denver.

ANCONAS

ANCONA EGGS—$1, $2, $6 PER 0. EXclusive Ancona farm. Mrs. D. S. Davis, Littleton, Colo.

LANGSHANS

EGGS, BEST LANGSHANS. John Lovette, Mullinville, Kans.

WHITE LANGSHAN EGGS FOR SALE FROM prize winning birds at Nebraska State Show. Eddie Swanson, Funk, Neb.

DUCKS

RUNNER DUCK EGGS, $1.00 PER SETTING. Undefeated; best. Ora Dubbs, Douglas Kan.

SEVERAL VARIETIES

S. C. REDS, WYMORE AND HICKMAN WINners. Stanley Kaura, Wymore, Nebr.

TWENTY LEADING VARIETIES OF POULTRY, stock and eggs. Royal Poultry Yards, Coffeyville, Kan.

HALL'S S. C. REDS AND WHITE ROCKS. Big stock show winners. Eggs for hatching, reasonable. Liston L. Hall, Gering, Nebr.

BUFF ORPINGTON, PARTRIDGE ROCKS, Bourbon Turkey, and Toulouse Geese. Eggs. Mrs Frank Neel, Beverly, Kans.

WELL-BRED, EXTRA LARGE, ROUEN DUCK eggs. $2.00 per 12. Good layer, big boned White Wyandotte eggs. $8.00 per 100. Robt. Fulliton, Austin, Neb.

WANTED, EGGS—BARRED ROCKS, WHITE Rocks, Rhode Island Reds, White Wyandottes. Highest cash price paid. Wm. H. Walter, 176 S. Broadway, Denver, Colo.

WHITE WYANDOTTES AND WHITE LEGhorns. The strains that won first place at the three leading egg-laying contests. Lewis Jones, 2327 Twenty-first Street, Boulder, Colo.

PARTRIDGE WYANDOTTE EGGS. $2.00 per 15; $10.00 per 100. Silver Campines and Fawn and White Ducks. $2.00 per 15. Oscar Huston, La Junta, Colo.

FOR SALE, EGGS—EGGS FROM ALL KINDS of purebred poultry; three kinds of geese, seven kinds of ducks, pearl and white guineas, bantams, fancy pigeons, rabbits, guinea pigs, canaries. Write wants. D. L. Bruen, Platte Center, Neb.

ALL LEADING BREEDS, EGGS AND STOCK. Bronze and Bourbon Toms, Barred Rock, Rhode Island Red, S. C. White and Brown Leghorn cockerels, Guineas, and Geese. Will sett or trade for runner ducks. Emma Ahlstedt, Roxbury, Kan.

R. C. REDS—$1, $1.50 SETTINGS; $6.50 PER 100. Fertile, Hoganized. Prize stock S. C. Red chicks, 25c and 35c each. Thorobred Campines—4 pullets, 2 hens, cock, $16. A. Stevens, 24th St. School, Denver, Colo.

BABY CHICKS

BABY CHICKS—YOU BUY THE BEST, GUARanteed alive, at Colwell's Hatchery, Smith Center, Kan. Shipped anywhere, 12 cents.

KANSAS LARGEST POULTRY FARM. HATCHing eggs, baby chicks. Free egg circular. Write today for complete list twenty best varieties. Modlin's Poultry Farm, Topeka, Kans.

COLUMBIA HATCHERY—ALL LEADING VArieties of baby chickens, cockerels, turkey gobblers and hatching eggs in incubator lots. We ship to all parts of Colorado, Wyoming and New Mexico and guarantee live delivery to your express office. Write for our price list and particulars. P. O. Box 1102, Denver.

BABY CHICKS THAT LIVE. THE REAL Rhode Island Reds and Brown Leghorns. Price, 18c apiece or $16.00 per hundred. Will sell a few dozen of my "Lay More" strain of Barred Rocks from the same strain that won the blue ribbon at the Denver Stock Show at 30c apiece. J. R. Anderson, Ft. Morgan, Colo.

COLUMBINE BABY CHICK CO.—WE ARE booking orders for early delivery of baby chicks, Rhode Island Reds, Barred Rocks, White Leghorns, etc., etc. Price, $2.50 per 12, $18 per 100. We ship everywhere and guarantee live delivery. Book on chicken raising, treatment and care free with all orders. For selected stock pullets and cockerels, write for price list. Box 74, Denver.

HELP WIN THE WAR—PURE BRED LAYING strain day old chicks. Delivered at your express office, guaranteed alive. Large strain S. C. White and Brown Leghorns $18.00 per 100. Barred Rox, R. and S. C. R. I. Reds, $20.00 per 100. Leftovers above breeds, $15.00 per 100. Orders for 100 or more express prepaid. These chicks are hatched in the right climate to live when you get them. Edward Steinhoff, Leon, Kan.

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COLLIE DOGS, ALL AGES, MATRONS BRED and open stud dogs and puppies. Frank Davis and Sons, Holbrook, Nebr.

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IT'S GOOD BIG HATCHES YOU WANT. D ver Incubators are built and tested for this climate and positively hatch big, strong chi Get our free catalog. Low prices, with freight paid. Coal-heated colony brooders $17.50. lamp-heated brooders can't be heat. For Sa Baby chicks and hatching eggs from Hogan flocks that will make you money. Selected the best in Colorado. Denver Incubator Co., South Broadway, Denver, Colo.

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GUARANTEED EVERBEARING STRAWBE plants. Will produce fruit the first Progressive, $1.25 per 100. Superb, $1.00 100. Not prepaid. Ed Keehn, Littleton, Colo

BUY TREES FOR YOUR ORCHARD OR GR and have two and thre years to pay at the time. All stock that fails to grow replaced Address Weldon Valley Adv. Co., Weldona,

POTATO PLANTS—100 FOR 45c; 500 $1.85; 1,000 for $3.50; postpaid. N Hall, Triumph, Southern Queen, Porte Rica, Jersey, Pumpkin Yam, Pink Yam, Dooley Ozark Nursery, Tahlequah, Okla.

EVERBEARING STRAWBERRY PLANTS; gressive variety; flavor, heavy bearing qual and ability to bear in cold weather makes best small fruit for mountain states. Price per 100, $5.00 for 300, $15 per 1,000; pre J. L. Salladay, Arvada, Colo.

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DRY LAND ALFALFA SEED. De Shon, Lo Kans.

WHITE DENT SEED CORN FOR SALE. C T. Lewis, Keota, Colo.

ALFALFA SEED FROM NORTHWEST KAN 95 per cent pure, good germination, $7.50 bushel. Order early, freight will be slow. Bowman, Logan, Kans.

CHOICE WHITE SWEET CLOVER AND falfa at farmers' prices. J. M. Lewis, V Kan.

SAN LUIS SEED PEAS—CARLOAD OR LO shipments. Prices and samples gladly sub ted. A. A. Salazar & Son, San Luis, Colo.

SUDAN GRASS SEED—THE BEST DRO resistant forage plant. Was never so in demand as now. Best quality seed 30c lb. Address Grower, Wm. Ritchie, Arling Cal.

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TRACTOR FOR SALE—EMERSON-BRANT ham Big Four 20-35. Engine lift four 14 plows. In A-1 condition. Can make imm delivery. Heavy plowing all done. Do not it longer. Will sell for half price of a new fit. Address E. W. Jackson, 1453 Birch Denver. Phone York 1942W.

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KODAKS, CAMERAS, PHOTO SUPPLI Ford's, the best kodak store, 1029 16th opp. old P. O., Denver, Colo., for Eastman daks, all makes cameras, films, photo supp develop any size roll films, 10c; print pict 3c each and up; mail orders solicited; kodak camera catalog mailed free upon request. tion this paper.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. for 68-page illustrated catalog. We also Comb and Extracted Honey. The Colorado H Producers' Association, Denver.

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LUMBER—POSTS. WRITE US AB prices delivered at your station. Send for estimate. Pay after unloading. Kirk pany, Box 1138-S, Tacoma, Wash.

HELP WANTED

U. S. GOVERNMENT WANTS HELP. M women, 18 or over, $100 month. Quick vancement. Thousands war positions open. work. Write immediately for free list positi Franklin Institute, Dept. O172, Rochester,

LIVE STOCK

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CATTLE

MILKING SHORTHORNS FOR SALE. W. Wight, Las Animas, Colo.

FOR SALE—REGISTERED POLLED DURH and Shorthorn breeding cattle. Write J Held, Sterling, Colo.

FOR SALE — TWENTY-ONE REGISTE Hereford heifers coming two years of the best Anxiety breeding, at $175.00 head. F. O. B. Aroya, Colo. J. O. D. Ra Aroya, Colo.

COWS, HEIFERS AND BULL—34 H grade Hereford cows, mostly 4 and 5 y old and dehorned, are Brown Lad's bree and grade next to registered stock. 22 choice coming yearling heifers of Freighter breeding. Also herd bull, Freighter 17, years old. Cows are due to calf after M 15th. Must sell for I have no pasture now on. Josef Neugelhauer, Julesburg, C

HOGS

REGISTERED, BIG TYPE DUROC JER hogs for sale. Edgemoor Farm, Littleton, C Caldwell Martin, Owner.

DUROC-JERSEY HOGS—LARGE, BIG-BON registered and immune. J. B. Benedict, P Wyldemere Farm, Littleton, Colo.

DUROC JERSEY HOGS—THE BIG BON large, prolific type. Young pigs by Senior Champion boar at the last Denver S Orion Cherry King 15th. Did you see grand champion barrow that sold at 50c pound? J. O. D. Ranch, Aroya, Colo.

Turn to Page 19

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred

We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Write us for prices and detailed information.

OFFICES

First National Bank Building, Cheyenne, Wyoming
406 New Live Stock Exchange Building, Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager

WM. J. ROSSMAN, Ranch Superintendent **JAMES C. ADAMS, Salesman**

HEREFORDS FOR SALE

Only one young Hereford bull left for sale, Heir's Successor, No. 614072, dropped September 30, 1916. Ready for service. Sired by Heir's Anxiety, No. 359788, the sire of Morris, Grand Champion steer at the Western Stock Show, 1918, who sold for over $800; dam, Winifred, No. 228963, a daughter of Keep On. This is a strong, growthy young bull, not a show bull in all respects, but will make a good herd sire for a small purebred herd, or will fit in well on the range. Price, $400.

We also offer a nine-year-old cow, Gipsy, No. 316045, with a good September bull calf at foot by Heir's Anxiety. Price, $350, if taken at once. Rebred to Heir's Anxiety. Calf alone will be worth the money by fall.

ANIMAL HUSBANDRY DEPARTMENT
Colorado Agricultural College **FORT COLLINS, COLO.**

HIGH-CLASS JERSEYS AND DUROCS

Majesty Oxford Combination, half brother to the grand champion at Columbus, at head of herd.

A September calf, by Count Majesty, out of Imp. Cowslip's Sweet Bread, an imported cow; a nice straight calf, solid color and good, at right price.

A spring boar, by Proud Chief Jr., out of Dixie Girl, by Lee's Defender, at right price.

Also a few September pigs out of a daughter of Model Critic, by a son of Grand Model. Prices right.

A. M. McCLENAHAN, Greeley, Colo.

Brookside Stock Farm Offers

Two good bulls 7-9 months, by Cornucopia Pontiac Korndyke 2nd, dams Clema De Kol Goldene and Lady Parthena Homestead.

Write for description and price.

J. P. Christiansen Saronville, Nebr.

HOLSTEIN CATTLE

Breeding Herd numbers eighty head. Established in 1901. Cattle unexcelled for type and production. At present we are offering A FEW YOUNG BULLS READY FOR LIGHT SERVICE. We ship subject to inspection, furnish health certificate and written guarantee. Write to

LITTLE & LITTLE, Clarks, Nebraska

$25 Holsteins $25

You can buy calves for less but when you buy stock from Roberts you get value received. High Grade 15-16 pure, 5 weeks old calves. Specify markings. Express paid. Satisfaction guaranteed for $25. Cows $125.

J. A. ROBERTS
Cattle Expert Waukesha, Wis.

BARGAINS Percherons, Belgians, Shire, Suffolk, Clyde, Hackney, Great Coach Stallions, $450 and up. Good Jacks. One, two and three years' time given purchasers.

R. I. LITTLE
Good Block **Des Moines, Iowa**

HIGH GRADE HOLSTEINS

WE OFFER FOR SALE, choice, beautifully marked heifers or bulls, 3 to 5 months old, $45.00 crated F. O. B. cars. Write W. C. KENYON & SONS, Elgin, Ill.

BLUE RIBBON HERD

DUROC JERSEY HOGS
Everything Registered
Stock for Sale
C. P. BURKE, Rocky Ford, Colo.

Uncle Sam is in a race against Germany for ships and food—Are you with him?

Continued from Page 18

FARMS AND RANCHES

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GOVERNMENT LANDS—BOOKLET. JOSEPH Clark, Sacramento, Cal.

WANTED—TO HEAR FROM OWNER OF FARM or unimproved land for sale. O. K. Hawley, Baldwin, Wis.

I HAVE SOME CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give full description, location and cash price. James P. White, New Franklin, Mo.

FOR SALE—280 ACRES IRRIGATED RANCH, 120 acres under cultivation. Close to city of Salida, runs along county and railroad, five minutes to school house, good grazing lands. Owner, Jno. Drohnick. Salida. Colorado, R. F. D. Box 78.

HALF SECTION DEEDED, FENCED, FOUR miles to railroad station; 120 acres cultivated; will cut 70 tons native hay; abundance of seepage water; excellent farm for corn, beans and wheat; owner drafted; must sell. Write for full particulars. C. K. O'Byrne, 326 Symes Bldg., Denver, Colo.

600 ACRES NON-IRRIGATED LAND 12 MILES from Denver on Union Pacific, station on farm. High state of cultivation, 300 acres in winter wheat and 300 acres fall plowed. Abundant supply of well water with Springfield Pressure Tank System. O. E. Le Fevre, 1311 York Street, Denver.

HAY RANCH—PRODUCES 500 TONS SOUTH Park hay; deeded, 72 feet decreed water rights, improvements, adjacent railroad, town and forest reserve. Ideal for hay or stock ranch. Yearly income about $13,000; must be sold immediately. C. K. O'Byrne, 326 Symes Bldg., Denver.

MISCELLANEOUS

FOR SALE OR WOULD TRADE FOR CATTLE or range horses—One Reg. French Draft Stallion and one Mammoth Jack. Apply to R. Pryor, Box 272, Las Animas, Colo.

FARMERS—GET RID OF THE FLEAS ON your dogs. Send 50c to C. E. Knight, Alfalfa, Colo., for liberal package of Flea Powder.

AUTOMOBILE ACCESSORIES

YOUR FORD WILL USE HALF COAL OIL IF you use our 1918 carburetor. 34 miles per gallon guaranteed. One-third more power. Use cheapest gasoline or one-half kerosene. Quickly starts cold motor even at zero and moves right off with full power. No spitting or popping. Slow speed on high. Fits exactly. Attach it yourself. 30 off list where no agent. Big profits selling our goods. We fit all motors. Write for 30 days trial offer and money back guarantee. The Air-Friction Carburetor Company, 469 Madison st., Dayton, Ohio.

Kansas Germ-Free Fluid Vaccine for Blackleg

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

The Kansas Blackleg Serum Co.
LIVESTOCK EXCHANGE BLDG., ROOM 407, DENVER, COLO.

COMBINATION AUCTION SALE

Registered Herefords

90 Bulls **90 Females**

At the Stock Show Stadium, Denver Union Stock Yards

April 8, 1918, Commencing at 9 A. M.

THE WYATT LIVE STOCK COMPANY'S

THIRD ANNUAL SALE

In connection with the following well-known breeders who are contributing some of their choicest bred cattle:

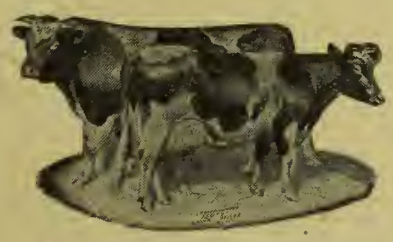
H. Bert Cave, Denver, Colorado; A. B. Cook, Townsend, Montana; A. J. Campion, Denver, Colorado; T. F. DeWitt, Parshall, Colorado; Canary & Son, Denver, Colorado; John E. Painter & Son, Roggen, Colorado; Davis McConnell Co., Saratoga, Wyoming.

Offerings will include Herd Headers, Range Bulls, High Class Breeding Cows and Heifers, Cows with Calves at foot and bred again to noted sires. Also an assortment of good young Bulls and Heifers.

In addition to the offering in the Sale Ring, the Wyatt Live Stock Company will offer an assortment of registered cattle of private treaty, thus enabling the car-lot buyers to fill out their shipments.

For catalog or any other particulars, address any of the undersigned: SECRETARY R. J. KINZER of the American Hereford Cattle Breeders' Association, 1009 Baltimore avenue, Kansas City, Missouri.

THE WYATT LIVE STOCK COMPANY
DENVER UNION STOCK YARDS, DENVER, COLO.
Mr. John E. Painter, Roggen, Colo.



ATTENTION WESTERN FARMERS AND DAIRYMEN

Acclimated Holsteins and Percherons

WHICH WILL BE YOUR CHOICE?

Buy your Holsteins and Percheron Horses AT HOME. Colorado Acclimated.

or send East and get stock that you will have to acclimate before they do you any good, and in most cases pay a great deal more money for them in the end?

Write us today—get our prices and guarantees.

THE JAROSA RANCH

HOWARD M. JAY, Owner
R. F. D. No. 2. Box 71
LONGMONT, COLO.

Breeders of Holstein Cattle, Registered and Grades

Registered Percheron and Belgian Stallions and Mares

I have a few more fall gilts left for sale, sired by A Big Joe and Long Giant. Also have a few more bred sows and gilts bred to Mouw's Best Gerstdale, the greatest son of the $6,600 Gerstdale Jones.

GEO. R. GILMORE
FORT MORGAN, COLO.

The Grange

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R. J. ALTIG, Boulder, Colo., Overseer.
C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 415 Charles Block, Denver, Business Agent and Secretary.

The Ohio State Grange Monthly, in a recent issue, gave a full account of the visit to Washington and personal conference with President Wilson of a committee representing Organized Agriculture. Fifteen farm organizations were represented, including the National Grange. A memorial was presented to President Wilson in which the various problems affecting agriculture were put up to the chief executive in concrete form. The President declared that he was complimented by the visit and he thanked the delegation heartily for what he termed "the candid presentation of this interesting memorial."

Undoubted good will came from this direct meeting of the organized farmers with the chief executive of the nation. Among the many matters touched on in the memorial none is so important as that regarding permanent representation at Washington of the farming industry. We quote the following recommendation as it expresses a need that is keenly felt by the Grange all over the country:

"As to Representation: We recommend the immediate appointment of a farm commission, to consist preferably of nine farmers actually engaged in the business, to be selected by the President from men representative of and satisfactory to the great farm organizations of America, and to report directly to him on all questions that affect increase of agricultural production and distribution. Such a commission should be authorized to secure information from all government sources, and all departments of the government should be instructed to cooperate with it. It should be in uninterrupted session at the city of Washington and provision should be made for necessary quarters and expenses by federal action. The commission should be required, as its first task, to report at once upon all matters necessary in the immediate execution of recommendations Nos. 1 to 4, above.

"Such a commission is needed. First of all, to give the farmers of America a sense of partnership in the conduct of war, to which they have a right. Occasional consultation with farmers called to Washington, or the occasional appointment of a farmer to a subordinate place, does not amount to fitting participation in the conduct of the war on the part of one-third of the population of the United States, and all the more when that third produces the one form of supply which is the most essential.

"This plan would be in harmony with the procedure already adopted by the government in other essential industries. The creation of such a commission would convince all farmers that their viewpoint was fully represented in Washington and always accessible to the President, and would inspire and encourage them as nothing else could. Immediate and vigorous action is imperative."

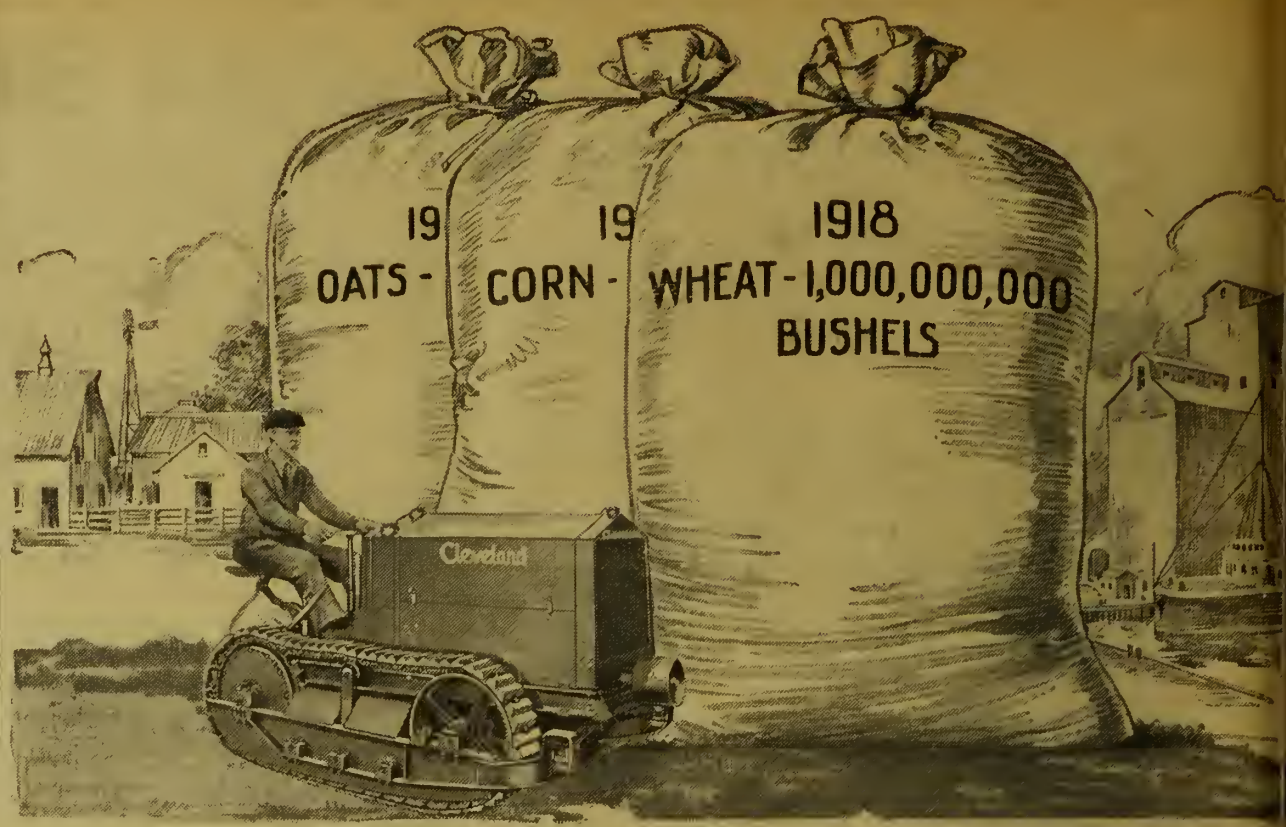
Feed for Wintering Beef Cattle

Continued from Page 10

calves on succulent or compound with dry feed. Root crops or silage are valuable in this connection, with modern practice strongly favoring the silo. Silage crops successful for this purpose are corn, peas and oats, wheat and peas, barley, etc. For four years in succession the University of Idaho breeding beef herd and young stuff have been wintered largely on silage. It would seem almost impossible, after four years' use of silage, to keep the herd properly if no silage were available. Peas and oats silage has been fed in large quantities with especial success.

It has been found at the University of Idaho that a field pea straw, a once little used by-product of the field pea growing industry, has a distinct value and usefulness for silage. On account of the shortage of crops available for use in a silo during the past year, two silos on the University Farm at Moscow were filled with a mixture, the basis of which was field pea straw and this was mixed with from ¼ to ⅓ of corn by bulk. The mixture was cut fine, thorcly wetted and well packed in the silo.

The siloing process that ensued was similar to that taking place in corn and an excellent silage, especially well adapted to the feeding of sheep, beef and dairy cattle, resulted from the mixture indicated above. In two or three places in the silo it was found that insufficient water had been used or the proportion of corn was too low. This resulted in a drier and less palatable feeding material and there was considerable waste. On the whole, however, the results were entirely satisfactory and the University herd of sixty head of purebred beef cattle was maintained on this kind of silage for more than six weeks.



The Task Before the Nation's Farmer

One billion bushels of wheat must be produced in this country this year.

An enormous increase in the yield of corn and oats is necessary.

Thousands of extra acres must be cultivated. Each individual farmer must produce about one-third more grain than last year.

The task before the nation's farmers is stupendous. Intensive methods of every kind must be employed. Machinery must take the place of muscle wherever possible.

In the face of this emergency the Cleveland Tractor becomes an absolute necessity. Its tremendous value to the farmer is emphasized more than ever.

Cleveland Tractor

The Cleveland Tractor not only conserves time and labor—it does far *cheaper* and *better* work. And by doing better work it makes possible the production of larger and better crops—enabling you to do your part for the government—*and make more money for yourself.*

The Cleveland Tractor shows the way. It plows 3½ miles an hour—8 to 10 acres a day. It travels on its own tracks like the great "tanks" of Europe. It will go practically anywhere—through ditches, gumbo, sand and gravel. It is steered by the power of its own engine—simply and easily, and will turn completely around in a twelve-foot circle.

It will not pack the soil, will not mire, will not slip or flounder. It has 600 square inches of traction surface. track is designed for long service. The sections are constru to prevent filling or packing with mud, and protection is vided to prevent dirt and mud from falling into the track. sections are joined with hardened steel pins which have bearings in hardened steel bushings. The Cleveland we less than 3200 pounds. It can be housed in less space is required for one horse.

The Cleveland develops 12 h. p. at the drawbar for ing and gives 20 h. p. at the pulley belt—plenty for statio work of all kinds.

But in spite of its unusual po the Cleveland is small and readily be used in orchards under and among small fruit t

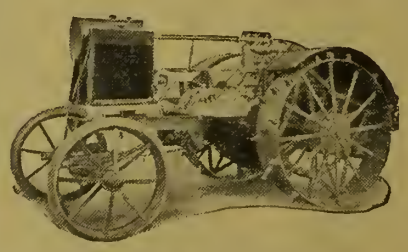
Rollin H. White, the famous motor truck engineer, desi the Cleveland Tractor. He has used only the best mate Gears are protected by dust-proof, dirt-proof cases and a the same high quality as those of the finest trucks.

Prepare *now* to produce the enormous crops which must have—and incidentally make more money for you Get ready *now* for the great tasks before you. Order Cleveland Tractor *now.*

Write to us for complete information and the name of nearest Cleveland dealer.

THE CLEVELAND TRACTOR COMPANY, Dept. CP, Cleveland, Ohio, U. S. A.

FLOUR CITY KEROSENE TRACTORS



Flour City tractors are made in five sizes ranging from 12 to 40 H. P. at the draw bar. One of these five will fit your requirements. Maximum work at minimum cost is yours with a right sized FLOUR CITY.

With a FLOUR CITY, your tractor's performance is backed by an organization sound, staple, strong; you are assured co-operation and aid thruout your tractor's service.

Catalog of the full line on request

Kinnard & Sons Mfg. Co. 897 44th Ave. No., **Minneapolis, Minn.**

84.05
IN

WESTERN Farm Life

Vol. XX Denver, Colorado, April 15, 1918 Semi-Monthly

DRY LAND PINTO BEANS GROWN BY JAMES HAZEN, HOLYOKE, COLORADO

You May Stay at Home —but You Can Help Win the War

YOU—"*The Man with the Plow*"—may look far afield, your thoughts may be of the boys in the trenches, you may even feel a strange tugging at the elbow, but your task just now is to plow and plant and produce. *Your* fight is in the "supporting line." And from that line must come the strength of the

AMERICAN ✚ RED CROSS

—the great organization of mercy, whose activities know no bound in territory, no limit in service.

The atrocities of our enemies have made war's suffering doubly great, but that suffering is being relieved by the Red Cross. In Belgium, in France, in Serbia, in Armenia—wherever war has spread its misery, the Red Cross is at work: nursing the sick and wounded, feeding and clothing the destitute, rebuilding devastated lands—even preparing crippled soldiers for new lives of the greatest usefulness and independence. And for this great work your money is needed.

Your Red Cross is an all American, largely volunteer, organization, authorized by Congress, headed by President Wilson, audited by the War Department, enthusiastically approved by your Army, your Navy, and your Allies.

The work covers both military and civilian relief in every war torn Allied country and full reports of all expenditures are continually being published, or are available through the Chapters.

Every cent of every dollar received for the Red Cross War Fund is spent for war relief. All administration costs and relief work for other than war purposes (such as the Halifax and Guatemala disasters) are taken care of out of membership dues, and the interest which accrues from the banking of the War Fund has made actually available for war relief at least one dollar and two cents for every dollar contributed.

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This space contributed for the Winning of the War by

THE PUBLISHER OF WESTERN FARM LIFE, DENVER, COLO.

Published Semi-Monthly by The Farm Life Publishing Co., Denver, Colo. 14th and Arapahoe Sts.

Entered at the Denver Postoffice as Second Class Matter

WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, APRIL 15, 1918 | Number 8

A Typical Dwarf Kafir Plant
(Courtesy Agricultural Dept., American Steel & Wire Co.)

Grow More Grain Sorghums

WHEAT SUBSTITUTE AS HUMAN FOOD

GRAIN sorghums should be grown this year to a greater extent than usual in sections where the climatic conditions are favorable. In Western Farm Life territory that applies to southeastern Colorado, the plains districts of New Mexico, and certain portions of the Colorado Western slope, Utah and Idaho, where the altitude is less than 5,000 feet. There is a great demand for this crop, both as forage and grain for stock, and especially for human use as a substitute for wheat.

Farmers who know the crop and have been growing it will do well to consider raising a sufficient supply for their own bread. The grain may be ground in a grist mill. It is also feasible for communities where the grain sorghums will mature to establish small milling plants and turn out quantities which will find a ready sale as substitutes for wheat in all city markets. Prices on wheat substitutes are inordinately high this spring, because of the unusual demand, due to wheat saving. There is no possibility of overtaking the demand for wheat with the present acreage of either winter or spring wheat, under any possible combination of circumstances, so long as the war continues.

Furthermore, the present use of wheat substitutes has a tendency to create a permanent demand for these supplementary grains so easily grown under light rainfall conditions in much of this western country.

The three standard types of grain sorghums for this region are kafir, milo, and ferterita. Kafir is often used to describe this group of related types, altho they differ in characteristics to a considerable extent, kafir being the one that requires the longest growing period and that is the least resistant to cold nights. Only the dwarf varieties of any of the three should be planted. Milo and feterita are hardier and stand more adverse conditions of moisture than kafir. The writer has seen well matured feterita grown at over 5,000 feet in Colorado.

The grain sorghums should not be planted until the ground is thoroly warm. In Western Kansas the practice is to plant about ten days later than corn. The seedbed must be well prepared and seeding in rows is at the rate of four to eight pounds per acre, the lighter seeding for regions of light rainfall where wide spacing of plants is necessary. Cultivation should be the same as for corn.

The attractive thing about the grain sorghums is that when they fail to ripen, because of early frost, they can be used to great advantage in the silo or as dry roughage for stock. They are nearly equal in feeding value to corn and they yield more heavily than corn in grain and forage under equal conditions.

The grain sorghum acreage is gradually increasing, but the increase will be more rapid when the value of these crops is better understood. In 1917 the estimated acreage was 5,153,000 acres with a yield of 75,866,000 bushels in the six states: Kansas, Texas, Oklahoma, Colorado, New Mexico, and Arizona. This is an increase of 1,209,000 acres and 22,008,000 bushels over the 1916 crop. The largest crop on record in this country was produced in 1915, under very favorable conditions. That crop totaled 114,460,000 bushels, though the area grown was 1,000,000 acres less than it was in 1917.

In the six states mentioned, during the three years from 1915 to 1917, inclusive, the average acre value of the grain sorghums, including both grain and stover, was larger than that of most other crops. In Kansas, Texas and Oklahoma, the three leading states in the production of grain sorghums, the average acre value of the grain alone in this same period was $17.72, while that of corn was $14.74; of oats $14.44; of barley $16,58, and of rye $15.79. These figures show that the acre value of sorghum grain was $2.98 more than that of corn, $3.28 more than that of oats, $1.14 more than that of barley, and $1.93 more than that of rye. The grain sorghum crops are, therefore, the most profitable ones on the basis of acre value.

Local conditions determine whether to choose kafir, milo or feterita. The variety which has given the best results thru a series of years in any given locality is the safest to grow in that locality.

Kafir is best adapted to lower altitudes and to localities where the annual rainfall ranges from 20 to 25 or more inches, well distributed over a long growing season.

Milo is adapted to conditions such as exist where the altitude ranges from 3,500 to 4,500 feet and the annual rainfall is 15 to 20 inches.

Feterita appears able to stand more heat but less cold than milo, and to make a crop with less moisture. When conditions are favorable for milo, it will usually outyield feterita.

Used For Stock Feeding

Horses, mules, cattle, sheep, hogs, and poultry have been fed the grains of these nonsaccharine sorghums with very satisfactory results. Breeding animals or those which are working or being fattened for the block eat properly prepared sorghum grains with much relish. However, as the grains are small and rather hard, grinding or crushing is recommended before feeding, except for sheep and poultry. Sheep masticate the small kernels well, thus rendering them readily accessible to the digestive juices, while poultry feed upon the unbroken grain, which is especially palatable to them in this form. If the grain is not ground for other stock it is less palatable and much of it passes thru the digestive tract unbroken; thus much of the total feeding value is lost.

Very often the entire heads are ground up, producing a feed of greater bulk. The resulting meal, called head chop, resembles corn-and-cob meal in food value. It is recommended especially where the supply of roughage is limited, and usually is economical for feeding stock not being finished for market. Head chop is valuable in producing a high finish when supplemented by a rich concentrate such as a cottonseed meal.

The quantities to be fed to the different kinds of animals depend upon many factors, such as the amount and kind of roughage and of other concentrates available, age, type, and size of the animals, and for what purpose the stock is being fed.

The feeder always should remember that sorghum grains alone do not form a balanced ration, and the same care which is exercised in feeding corn should be applied when feeding grains of the sorghums. This applies with particular emphasis to the rations for young and growing stock. Some feed which is rich in protein must also be given if favorable results are to follow heavy feeding of this class of grains. Where alfalfa, clover, or other leguminous hay can be had, no addition of protein-rich concentrates is necessary. Otherwise the ration should be balanced by adding some feed furnishing considerable protein. Cottonseed meal or cake and linseed meal have been most widely used for this purpose. Skim milk or tankage can be used to balance the pig's ration.

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Since their introduction into this country the sorghum grains have been fed successfully to poultry. Most of the prepared poultry feeds which are offered on the market contain more or less of the grains of the sorghums. The grains do not require grinding, and are relished greatly by poultry, while they supply the energy and fat producing compounds in a desirable form.

The nonsaccharine sorghums may be utilized as forage in the form of stover and fodder or they may be put into silos. For these purposes the grain sorghums compare quite favorably with corn. Thus the grower may utilize the entire crop by feeding both the grain and the plant proper.

Well-cured stover and fodder from kafir, milo, etc., are well liked by livestock, and in some sections these constitute practically the sole roughage which the stock receive during the winter. Cattle can be well wintered at small expense on straw, fodder, or stover from the grain sorghums with a small allowance of some feed rich in protein. Linseed meal, bran, oats, or leguminous hay should be fed with the roughage of young stock, so that good growth will follow.

As with corn, silage is perhaps the most economical form in which the grain sorghum crops may be utilized. Sorghum silage is very much liked by sheep and cattle, and its use in the rations of these classes of stock is very desirable. When cut at the proper stage it has a feeding value practically equal to that of corn silage. The grain sorghums should be cut for silage at the time the seeds are in the stiff dough stage.

Kafir is a native of South Africa, having spread from there to southern India and thence over a large part of Asia. In 1876 the first kafir was grown in the United States. The plants grow 4½ to 6½ feet high. The leaves are nine to fourteen in number, are heavy, broad and dark green in color. The joints of the stems are short and thick, and offer great resistance to the wind; resistance to wind has been further increased by the breeding of dwarf varieties.

The seed heads are erect and frequently measure 14 to 18 inches in length. The heads are compact and cylindrical in shape; the berry or seed is white or red.

Drouth resistance of the plant, according to Dr. H. E. Horton, is not due to smaller water requirements, or abnormal root development, but to the fact that when moisture fails the plant becomes dormant, the leaves roll and assume an upright position and in this condition the plant actually waits for rain.

Used as Human Food

In using the sorghum grains for human food they must be mixed with a sufficient quantity of flour to supply the gluten. The following recipes have been in successful use for some years:

(Note—Milo or feterita meal can be used the same as kafir.)

Kafir Griddle Cakes

⅔ cup kafir flour or meal
⅓ cup wheat flour
4 teaspoons baking powder to one quart dry flour
4 eggs, a little salt and sugar, sufficient milk to make three quarts batter; add one-half cup of maple syrup.

If batter is mixed over night, it will be improved. In this case mix in baking powder shortly before using.—(Rock Island Lines Dining Car Serive.)

Simple Muffins

2 cups kafir
2 teaspoons sugar
1 teaspoon salt
½ cup water
½ cup wheat flour
2 teaspoons baking powder
1 cup milk

Keep the batter thin.

A Successful Experiment With Student Labor

Student Labor Planting Beans on the Eaton Farms

ALFRED WESTFALL

AN interesting experiment with farm labor was worked out in Weld County, Colorado, last summer. Joe Eaton, a large scale farmer, had several hundred acres of dry land at Coleman, forty-five miles northeast of Greeley. Part of the land had never been broken. It was all suitable for pinto beans. Mr. Eaton had the capital to cultivate the land, but the supply of labor was uncertain. He could not plant a large acreage unless he was sure of sufficient labor to handle it.

Since he could supply the capital and land, he needed to find some people without capital who could supply the labor. If he could find these people, he also needed to make a contract with them that would insure him that the labor would stay until the crops were harvested.

He found his labor at the State Agricultural college. Here were college students without capital who were looking for an opportunity to work during the summer to earn money towards their college expenses. The proposition he made to them was this: He would furnish the land, capital, and machinery. The boys were to furnish the labor. The expense for seeds and the returns from the crop were to be divided equally betwen them.

Fourteen college students accepted the proposition. The Colorado Agricultural college, like a good many other educational institutions, excused early tbe students who went into military or agricultural service. They left the middle of May.

Seven hundred and fifty acres of land were plowed with a tractor and planted to pinto beans. Each student had charge of a forty-acre field. Quarters were provided and a cook employed. Wben the students were not busy on their bean fields, Mr. Eaton offered them work on some of his other farms, paying them two dollars a day.

The season was not the most favorable for beans. The spring was too wet. Three hail storms cut down the yield. The first stripped off all the leaves from the young plants just as they were getting started. The last threshed out a lot of beans as they were being pulled. It was followed by a wind storm that scattered the shocks. In spite of these unfavorable conditions, the crop averaged three hundred pounds per acre.

Some of the boys were called away during the summer, one to become a county agent in New Mexico and another to enter the army Y. M. C. A. work. Most of them returned to college the beginning of the school year, but went back to the farm for a couple of weeks the last of September to harvest the crops. Some stayed until all the work was completed, entering college the last of October.

The experiment turned out to the mutual satisfaction of all concerned. The boys, while they did not clear as large a sum as they had boped to, averaged close to three hundred dollars, which was more than they could have made working for wages, enough at any rate to pay their college expenses for the coming year. They had work for the summer in congenial surroundings. The work fitted into their college education. One student remarked:

"I think at least six months practical work on a farm should be required before a degree in agriculture is conferred. My work on the bean farm has been one of the best parts of my college education. It taught me how to apply the theoretical and class book discussion to actual problems."

Mr. Eaton kept his land producing in spite of labor conditions. He was able to break and bring under cultivation some new land. He didn't have to worry about harvesting his crops after he got them in. Of the boys he said: "They are the best farm labor I ever employed."

The college might be considered a third party to the contract, since it made it possible for the boys to accept Mr. Eaton's proposition. It was also benefited. The boys made up all of their work. They came back with a new interest in their studies and a more intelligent idea of how to proceed. They are more convinced than ever that a college education in agriculture pays.

Threshing the Bean Crop With Student Labor

Pinto Beans, Safest and Best Paying War Food Crop

PERMANENT DOMESTIC MARKET DEVELOPED BY THE GOVERNMENT

ALVIN T. STEINEL

LAST spring we said: Plant pinto beans; you can't lose. The same advice goes now. There is no crop that promises as sure returns in yield and cash as pinto beans, and none that can be grown under such a wide variation of conditions and altitude in the intermountain country. Whether on irrigated or non-irrigated land, pinto beans should be a part of the program, as tbis crop shares in importance with wheat and is safe under conditions that make spring grains a gamble.

Pinto beans, if planted on properly prepared land, will leave the soil in fine condition and can be taken off in time to put in winter wheat next fall.

Do not plant beans until the soil is thoroly warmed up. The last week in in May or first days of June is about the time for eastern Colorado conditions; a little later for higber altitudes. On dry lands the practice is to drill in the seed from 36 to 42 inches apart, with plants ten to twelve inches apart in the row, using from 10 to 20 pounds of seed. Under irrigation the usual practice is to plant in rows about 28 inches apart, with seeding thick enough to make one plant every four to six inches, using 30 to 35 pounds of seed to the acre.

Last season many fields in the dry land territory were not planted until the last week in June or the first of July, but most of these late plantings did not make a crop, as the summer was very dry. In the irrigation districts late planting met with better success, but the best yields were made on land planted as soon as the soil was warm, about the first week in June, giving the crop plenty of time to mature.

We had an unusually long fall, which was in favor of the late planting and decidedly in favor of the pintos grown at high altitudes. I saw beans that were matured at 7,000 feet in the Arkansas Divide country, between Denver and Colorado Springs. This cannot be done every season.

As stated in the issue of April 1st, the government is selling pinto bean seed at cost. Farmers who are not supplied should write immediately to the Bean Division, United States Food administration, Denver. The Food administration bought up the remaining 50,000,000 pounds of the crop in Colorado and New Mexico and held out 1,000,000 pounds at convenient large shipping points for resale to farmers who have no seed. The government paid the grower 8 cents a pound for these beans; the handler got a 10 per cent margin for his service, making the total cost to the government $8.80 per hundred. In selling for seed there will be a small cost of rehandling.

The Food administration is developing a permanent market for pinto beans thruout the eastern states. I am in receipt of the following information from J. B. Lamson of the Bean Division at Washington wbo has charge of market development, showing that these efforts are effective:

Lamson Makes a Report

"I have just returned from a trip to Pbiladelphia, New York and Boston, where we have arranged for shipment of fifty cars of pintos to each place. Mr. Hoover's idea in handling the pinto bean crop is to place these beans in our largest consuming centers, and as soon as the beans arrive begin a special advertising drive to inform the people of the value of the beans. We have given out many pounds in samples and everyone who has tried pintos has been universally well pleased with them.

"At Boston last week we served a pot of baked pinto beans to the county food administrators for Massachusetts. As you know, Boston is the best bean market in the world, and the New England people are the most critical in their taste. In fact, they have one establishment in Boston which serves nothing but baked pork and beans. These New Englanders eat beans daily, and as I said are perhaps the best judges of baked beans that there are in the country. The county food administrators for Massachusetts pronounced the pintos excellent. A number of them told me they were the best beans they had ever eaten. I considered this an especially strong testimonial, and believe that if we can get pintos started in a market like New England the future of pinto beans is assured.

"I have called on and interviewed a large number of retail stores, as well as wholesalers and brokers in tbese eastern states, and all of them are very much interested, and all of them have agreed to co-operate in handling our pinto bean crop.

"The prospect for a fair price next year for pinto beans is good. Preliminary reports indicate that the acreage of white beans tbis spring for New York and Michigan will only be about half of tbat for last year. This is due to the fact that for the past two years bean growers of these two states have had unusually wet weather at harvest time and have had great difficulty in saving their crop. This was especially true last year. Good seed for these states is very scarce and difficult to secure. For these reasons it looks as though the bean crop of Colorado should be in demand next year. At any rate there is no question but that the beans will be needed.

"A number of firms are now working on an order of canned pintos for the British government. The samples of pintos which were sent to England were satisfactory, and as a result after testing the pinto thoroly the British government has placed a large order for canned pintos in this country. However, the Food administration is endeavoring to have all of tbe wet beans canned in order to save the crop on band in New York and Micbigan, as otherwise many beans now on hand there would be almost a total loss. The idea is to bring the pinto to consumer in these eastern districts, rather than to can them for over-seas orders. However, it will be of interest to your people to know tbe British government was well pleased with the pinto as shown by the orders submitted.

"The indications are the California crop this year will be large on account of the fact that their beans have been in good demand on account of the excellent quality, and that they have not had trouble in harvesting and selling their crop.

"The one thing that is most important now is that all beans shipped from the west be in first-class condition. If eastern people are to be pleased with these beans they will have to be free from foreign matter, and be first-class in quality."

Beans a Good Sod Crop

Farmers have found that beans do as well as anything else as a sod crop, but, of course, they do not do nearly as well as beans on old land. The highest yield of beans on dry land this year was 725 pounds per acre on land which had been in cultivation several years. The crop failures due to drouth occurred principally on sod land, but in sections receiving no more moisture than the 725 lb. crop. This seems to be partly due to the fact that sod ground is seldom fall plowed and seldom deep plowed, so that all factors are against that crop. It now appears that the acreage of beans will be considerably increased in this country this year, but principally in the dry land sections. I do not think that the per cent of crop area in beans will be materially increased, but the total acreage will be. We can look for perhaps 2,000 acres more than last year.—Chas E. Smith, Agriculturist, Las Animas county, Colo.

Arvada Tractor Show May Become Permanent

SUGGESTIONS BY AN EXPERT IN CULTURAL METHODS

DR. VERNON T. COOKE

HE tractor demonstration held on the farm of Doctor C. V. Shoop ar Arvada on March 14, 15, and 16 lped to prove the immense possibili- s of plowing without our old friend d standby, the horse. As an initia- n in this section of the state this monstration was a great success and e consensus of opinion was that it ould be made an annual event. It ould take place within a reasonable stance of Denve , as this city is sur- anded by every kind of agriculture u can find, wet or dry, and Denver also the implement and farm ma- inery sale center of the entire ountain region.

It is doubtful if many of the hun- eds of visitors unacquainted before- nd with either the merits or de- erits of tractors in general, came ay from the show with much real owledge of the capabilities of the actors.

This article is written for the pur- se of suggesting that we follow some the methods observed in the great nual plowing contests or matches, th men and horses, held in Eng- nd when the writer was much young- than he is now. In these contests rtain fixed rules were observed. The rmer who entered the contest sent s best team, which were well ained, and his best plowman to do rtain things, amongst which were e plowing of straight furrows of uni- rm depth and the soil properly rned. There should be certain rules d regulations. For example, lay off much land for each tractor, then art the machines at a given time, cord to be kept showing how long it ok to plow so many acres at dif- rent depths (if possible on light and heavy soils), and amount of gas or l used. Each machine should show at it could do with a single sk, tandem disk and drag harrow, rrugated roller, etc., as well as how many acres of land each could drill in a day .

The above opens many possibilities to the men who have good tractors for sale, as well as to the manufacturers of implements who thus may demonstrate that their particular drill or harrom is the best. What the farmer really needs in addition to first cost is reliable facts as to cost of operating the machine and actual knowledge of possible annual repairs. Assuming that the tractor is properly handled, a two or three days' demonstration from plowing to drilling with certified records of costs, etc., taken by reliable men (say, for instance, county agents), should give anyone a fair idea of what a tractor will do. Of course, there may be objections by some makers who think they know their tractor is best, but no manufacturer of good reliable machines will hesitate to try to prove his machine what he represents it to be. Seeing is not always believing, but show me the farmer who cannot recognize straight furrows of uniform depth, well disked and harrowed soil, with the grain drilled in just where he wants it at a minimum cost. This is the kind of a showing that will sell machines, because this is what the farmer wants to know.

Necessity knows no law and the farm tractor is here to stay. Its advantages to the farmer are too numerous to mention. It is obvious that many farmers could arrange to run tractors night and day, which would mean taking advantage of soil conditions when they are just right. Much better work and more could be done in this way. Farmers usually have too much spring work coming on all at once, and any machine used by a competent man must be of great help. So why not show the possibilities properly, and not have tractors jumping, bumping, here, there and everywhere, over a large area of land, merely showing a machine plowing without anyone getting the real facts as to cost of plowing per acre, etc.

Many men say they can drive a team of horses. The proof that they can comes when they drive under various conditions. The same applies to tractors; it certainly should pay men who demonstrate their machines to have them run by competent operators. What is the sense of showing a tractor which is rated having 12-20 h. p. plowing with two fourteen-inch bottoms from six to seven inches deep, on striking a rise in the ground or a little knoll and getting stuck. If such a tractor has a capacity equalling eight good horses it is a failure, for the same number of pulling horses hitched to two fourteen-inch plows would not only not be stuck but something would have to give way.

And while on this subject would it not be well for every man who contemplates owning or handling a tractor to take advantage of the splendid opportunities offered by our Agricultural colleges for learning to handle them? Many tractors that seem to have proven to be no good were handled by incompetent drivers. The machine often gets the blame that should go to the so-called machinist.

Tractors taking part in the demonstration included the following: Case, Cleveland, Four Drive, Emerson-Brantingham, Denning, Sieve-Grip, McCormick and Waterloo Boy.

That women can drive the big machines as well as men was demonstrated by Miss Marion Shoop, daughter of Dr. Shoop, who handled tractors with the same ease with which she rode her cow pony over the field in helping her father conduct the demonstration. County Agent Floyd C. Tripp of Jefferson county was on hand to observe, and he is urging that the demonstration be made an annual event. Dr. Shoop's enterprise was commended by spectators and tractor owners. It was on his initiative that the demonstration was arranged and he got an eighty-acre alfalfa field plowed up free of cost. The old alfalfa roots offered considerable resistance, so from that standpoint the farmers had a chance to see what the machines could do.

Miss Marian Shoop Running an Emerson Brantingham Traotor

Practical Hints for Preventing Waste on Farm

HOW A HANDY MAN CAN MAKE USE OF HIS TALENT FOR MECHANICS

A. H. GERBAZ

ARM waste and mis-management are the two greatest destructive rm factors. Of all industrial occupa- ons agriculture is the most wasteful. ompare the packing house where all e hog except the squeal is utilized, the farm where examples of waste re the rule rather than the excep- on—waste of home talent and ma- rial.

The strongest delusive argument for e special help of black-smith, car- nter and so on, to do work for the rmers is that one who makes this his ade can do it better and cheaper an an amateur. This may be so for e more complicated work of that an- re on the farm, but for the ordinary bs which are most abundant, home lent can be used successfully. On e farm there is latent talent in the embers of the family or hired help r nearly all special work. Every mily usually has its jack-at-all trades, echanically inclined member. The ntention that the one who does the ade can do it cheaper than the mateur amounts to nothing. Bad eather is usually the greatest waster time as one is usually stagnant en. This time, if utilized is cheap bor. And again, the one with his ade makes you pay for all the val- able time it took him to learn, while u take wasted or squandered time to arn and do.

One of the strongest contentions for ome talent work is that when a per- on makes a new thing first or does a ew work first, he does not learn it om others but from himself, so the riginator is the progenitor. Now, who aught the first black-smith, the first arpenter, or the first mason? This ould convince one that there is no mit in learning to do what others ake their trade.

For most home manufacturing the material is cheap in the form of waste, such as scrap iron, stray boards and unutilized material. The farmer can successfully compete with the skilled artisan, as he most generally uses waste time and waste material in home manufacturing. Service counts more than looks in all home products.

The best mode of procedure in learning the different trades is in reading up on them and then actual experience by seeing someone else do it, and trying it himself. One who can fully observe another and try what his mind has imaged is well on the way to success.

First-class tools are essential in all home product work and are cheaper and more satisfactory in the end. There should be a completement of tools for satisfactory work. The purpose of my article is not to give definite directions on how to do what I enumerate, but pr ve that it has been done and can be done by the large majority of farmers.

Black-smithing Saves Money

Black-smithing is one of the two greatest money saving and helpful trades to the farm. There are many examples of farmers who do their own horse shoeing, tool, plowshare sharpening and tempering, welding, etc. There are always some of one's neighbors who do it. They have more ambition than others—that is all. Gate hinges, door and gate latches are so simple to make that a fourteen-year-old boy can do it. And yet too many farmers buy these simple contrivances. A bale hook makes a dandy staple puller. A flat iron bar bent like a claw hammer and split makes the best wire stretcher. A punch, cold chisel, screw driver, are all home made by many farmers. A blindfolded black-smith can make a clevis, and a bright farm youth can make one. Calipers and dividers can be made from the broken tines of a fork. Flatten broken end, straighten or curve tine, and then rivet together. Home made crowbars can be made from scrapped machinery shafts. Spokes from old buggy or wagon wheels make the best tool handles. There is no excuse whatsoever for buying handles. Edged tools and saws are all sharpened successfully by some farmers.

Did you ever note the broken handle shovels on the farm? Ever think how simple it is to file the rivets, drill a hole in the stub handle and pull it out with a wire? Then put on a new handle and save a dollar or more? Use two old shovels split, a tongue of one shovel rivited to the other, and a pipe, etc., then grind it. A post hole auger sells from three to nine dollars and yours will cost only a third of that.

Woven wire iron gates are only pipes bent at right angles, holes drilled and wires attached, and a few braces; easily duplicated by material and work right on the farm, at a third the cost. Yet too many farmers pay from four to ten dollars for one. Any kind of a gate should be home work.

There is plenty of waste material on most farms to manufacture a half dozen wheel-barrows. Study a factory-made barrow, then get to work and you can make one just as good, if not better, at half the cost. There are excellent examples of home-made windmills and water-wheels that were made on rainy days.

Carpentry is the other greatest

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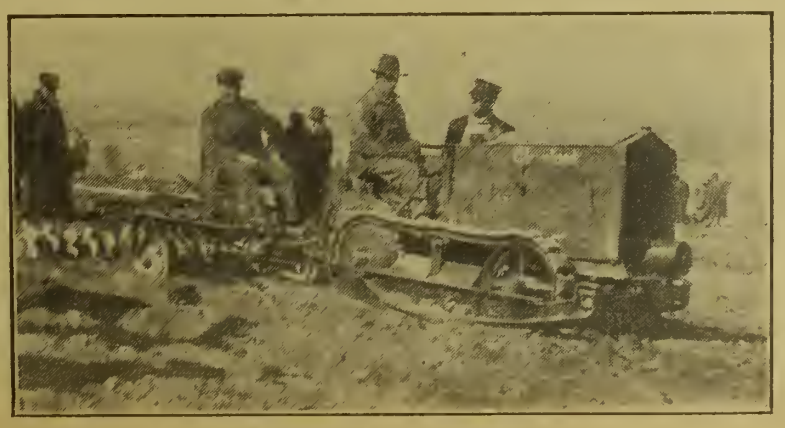

Cleveland Tractor Pulling Two Disks

A Few of the Purebred Holsteins on the Curtis Farm Near Sedalia, Colo.

It Pays to Breed Up Dairy Stock

INCOME FROM MILK IS $5,000 A YEAR

A milk check of $660 for the month of January, 1918, from 35 Holstein cows is an example of what can be done with purebred and high grade stock of that breed by experienced farmers. The writer recently visited the ranch of C. W. Curtis and Sons near Sedalia, in company with County Agriculturist V. R. Tucker. Mr. Curtis is one of the pioneer settlers along West Plum creek, having gone there with his father in 1871. He and his 5 sons are now running the ranch, which comprises approximately 2,000 acres. Of this area 250 acres are producing cultivated crops and alfalfa partly under irrigation. The alfalfa is watered from Plum creek, the water being raised with a centrifugal pump. Corn is the principal crop grown for feeding and it is nearly all of the White Australian variety. The altitude of the farm is about 6,300 feet and the growing season is long enough to mature this variety of hardy corn.

There are two silos in use, both of concrete construction, each having a capacity of 127 tons.

The winter feeding ration is composed of silage, alfalfa, corn chop, and oil meal. There is a pasture season of three months—June, July, and August—during which milk is produced exclusively from the rich, nutritious grasses of the hills that border both sides of Plum creek. This pasture is all under fence and is part of the ranch property.

While $660 is the high mark for any single month in milk income, the average will run very close to $400 per month. In fact, Mr. Curtis, in making his income-tax return for 1917, stated that the total received for milk during the year was $5,000. This is from an average milking of 30 to 40 head.

The Holstein herd comprises—calves and all—125 head. There are 26 registered females and two registered bulls, one of them of Pontiac strain.

The herd was started 11 years ago with one r gister d sire and three registered females, today's result being the effect of a gradual building up process from grade and scrub range stock. There are 5 cows in the herd with records above 40 pounds of butter fat in thirty days and one cow with a 56 pound butter fat record, as shown by the books of the Douglas County Cow Testing as ciation. About one-third of the herd are polled cattle, Mr. Curtis being partial to this class of Holsteins. Milk is marketed at Sedalia where it goes into the manufacture of cheese and butter.

The Curtis herd is just one of a number of splendid da ry herds in Douglas county, where remarkable progress has been made in dairying in the last few years.

The county is acquiring a reputation for milking Shorthorns. There are several fine herds of this breed and dairymen handling them are kept busy supplying calls from other sections for milking Shorthorns. The county is peculiarly adapted to dairying, because of the large areas of excellent hill pasture and the fact that the water supply is ample. Irrigation is practiced in the valleys, but the hillsides are dry farmed with success, as summer showers are frequent and timely and the soil is fertile. Corn is the main reliance of the dairy farmers for grain, with alfalfa as the principal hay crop. A number of farmers have been growing Sudan grass for hay and have had no difficulty in maturing this prolific cr p at altitudes of 6,000 to 6,500 feet. One farmer reports to the county agriculturist that his cows will leave the alfalfa for Sudan hay when they get a chance. There are creameries at Castle Rock and Sedalia with an unlimited demand for all the milk that the farmers can produce.

Estimated production of wheat in Australia for the season 1917-1918 is 114,020,000 bushels as compared with last season's actual yield of 152,565,000. his is a decrease of 38,545,000 bushels, or 25 per cent, and is the result of reduced acreage combined with unfavorable conditions

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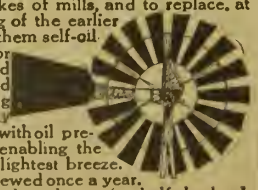

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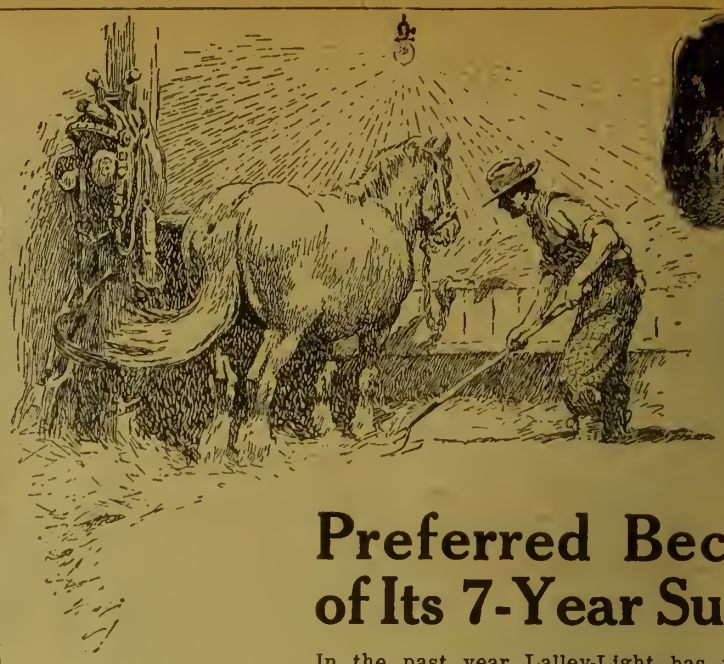

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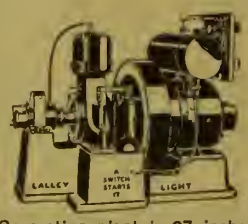

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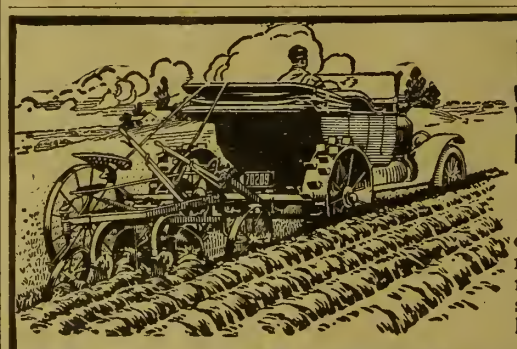

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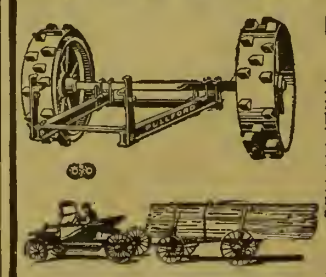

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Test Your Seed Corn

By P. G. Holden

There is a nation-wide alarm about ed corn. The condition is the most itical experienced in twenty years. ie corn belt has suffered tremendous ises. Frost in September killed the rn and prevented it from ripening d drying out. When the unusually ld freeze of Octob r came great dam- e followed.

The International Harvester com- ny gathered samples of seed corn om a number of farmers in Colorado r the purpose of making tests to de- rmine the condition of the seed corn. rmers were asked to furnish 20 rnels from each of 10 ears of corn hich he intended to plant. Six of ese 20 kernels were tested by the wdust germination box method.

Kernels which showed vigorous roots d sprouts were placed in column arked "strong." Kernels with weak ots and sprouts were placed in the eak" column. Kernels which failed grow at all were placed in the ead" column.

This method was followed out with x kernels taken from each of the n ears obtained from each farmer. The results re as follows:

	Variety	STRONG	WEAK	DEAD
W. Wickle, Fruita	Iowa Silver M	16	16	28
C. Hiatt, Fruita	Iowa G. M	28	22	10
T. Kiefer, Grand Junction	Iowa G. M	22	23	15
T. Kiefer, Grand Junction	Diamond Joe	30	24	6
eo. H. Garlitz, Grand Junction		36	23	1
eo. E. Kers, Clifton	Iowa S. M	29	6	25
N. Culvert, Limon	Mixed	..	..	60
as. Jackel, Nunn	Yellow Dent	45	..	15
atheson L. S. Co., Matheson	Mixed	6	20	34
F. Hall, Platteville	Yellow Dent and White Dent	43	5	12
athcart & Gebbie, Colorado Springs	Yellow Dent	5	44	11

If you have old corn left over from our 1916 crop, keep it for seed and st every ear. Do not conclude too on that there is no seed corn in your locality. Ask your county agent—write to your agricultural college. Do not let the seed corn situation discourage you. The government is asking for meats and fats for our soldiers, and we must have corn to produce them.

Shorthorn Breeders Organize

Early in January a score or more of ranchers, mainly from Pinos creek, in the upper end of the San Luis Valley, met and organized the Del Norte Shorthorn Growers a sociation. A few weeks later a committee representing this association and consisting of the president, the vice-president and the county agent, was sent to Elbert county where a carload of young, pedigreed bulls, mostly short yearlings, was purchased of Mr. C. A. Melburn, and later shipped into the valley.

The animals having arrived, the next thing was to distribute them among the members of the association. A valuating committee made up of the purchasing committee and two other members went over the herd, placing a value on each animal and at the same time tagging the animals with numbers. The values placed on the animals consisted of the first cost, plus the expense of the trip. When this was finished, numbers from 1 to 20 were put in one hat and the names of the members buying bulls, in the ther. A disinterested party then drew a number from one hat and at the same time a name from the other. The number corresponding to the name was the number of the animal which the gentleman whose name appeared on the slip, bought; and the valuating committee could tell him at once just what his bull would cost him.

These animals were all bought in one lot and, of course, some were better individuals than others, altho there was not an inferior one among them; but the valuating committee had adjusted matters, so that a member drawing a superior animal would have to pay an extra price. Or, an animal below the average in quality would cost less than the average cost. The purchasing committee have been sent out a second time and have bought of the Maxwell-Miller Cattle company of Steamboat Springs, a carload of cows and heifers from 2 to 5 years of age, all in calf to the company's herd bull, Maxwalton's Pride 2nd, winner in his class at the 1916 International. They will be distributed in the same manner as the bulls.

Now, men who can get together, as these men have done on a proposition of this kind, are bound to make a go of it. It is no small thing to ask a man to accept and pay for an animal of another man's choosing, especially where the animal is a high priced one. But range conditions are not so good in the upper end of the valley as they once were and the members of the association have come to see that a small herd of well bred animals, kept under fence, will occasion far less grief, and, at the same time be more remunerative than a much larger herd of poorer grade, range cattle. Hence, the need and the reason for organization and cooperative action.

There are hundreds of new, purebred herds being started this year. Some have the right combinations of blood; others have not. The Del Norte Shorthorn Growers association have paid attention not only to the blood lines, but to the individuals, and down here in the valley we are of the opinion we have laid the proper foundation for the future herds.

C. D. HYATT,
County Agriculturist.

Bridging a Ditch

An irrigation company cut a canal thru a farm, separating a large portion of the irrigated land from the farm buildings. Who should build a bridge across the canal? The land owner or the irrigation company?

In the absence of agreement the land owner must build the bridge if he wants it.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver.

War provides a stage where all may play a part.

Plow an Acre an Hour—on Kerosene

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Why War Talk Is Necessary

The other day a friend remarked: "Why don't you let up on war talk? We've had enough of it. We know the country is at war and we are doing our part in producing bigger crops. We have had war talked to us from the platform and thru the press till we are tired of it."

This good friend is just as loyal as anybody could be; he is doing more than his share in crop production and in lending his money to the government. But for all that his advice is bad. We can not forget for one moment that this nation is in a death struggle with a government founded on ideas and beliefs long since outgrown by civilization; that the enemy government has plotted to disintegrate the United States; that its spies and silent well wishers are still among us, seeking to strike where and how they may, without fear of discovery. We have, in practically every community, a few people who are not loyal at heart. Some are followers of fallacious and mistaken religious sects; some are aliens from the enemy country to whom this country has given home, and means, and hospitality; some are followers of oblique political parties that, in the uproar of war think they have found a propitious time for foisting upon the people ultra-radical ideas whereby all our problems are to be solved by the easy method of establishing commercial business with everybody's tax contributions. Then we have a criminal element as represented by the I. W. W., openly teaching sabotage, treachery, sedition—anything and everything that might serve to hinder the progress of law and order as represented by sound principles of democratic government.

A farmer out in Cheyenne county laughs and says he sees or hears nothing of these terrible forces of treason; he knows his immediate neighbors and friends and the townspeople at the trading points; they are mostly Americans and the finest class of citizens. Some he knows of German birth or parentage who are giving all that is in them to help win the war; whose sons are at the front and who are sacrificing with the rest of us so that the German people too, may be liberated from the yoke of autocracy.

This farmer is right, so far as his own environment is concerned, but this cannot be said of all rural districts. There are rural communities in this state where men chuckled in glee the other day when Hindenburg pushed his line forward many miles.

Then the cities—Denver for instance—have a floating class of lawless men to whom the war offers an excuse to silently side with the enemy because they are against organized society. They are looking for a chance to strike the nation in the back. This undercurrent is watched by the federal authorities. Occasionally there is a flare-up, as in Idaho recently, where the I. W. W. caused riots.

Because of the freedom with which America has welcomed foreigners of all classes to her shores in many years past, we have more enemies of the government at home than any other nation engaged in the war and we have more people who, tho not open enemies, are, nevertheless, disloyal thru ignorance of the causes of the war and unwillingness to get a mental grasp of the issues.

That is why even the farm press must, at the risk of criticism, insist and insist, again and again, on unfaltering support of the government and warn the farmers against movements that come to them as "wolves in sheep's clothing," seeking to raise class issues and prejudices where there must be solidarity if we are to win the war.

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Moisture Conditions

There has been a decided improvement in moisture conditions in Western Farm Life territory during the last three weeks. In Colorado the rainfall was above normal for the first three and a half months of the year. Southern Idaho and most of the farming sections of Utah and Wyoming report similarly favorable conditions, while Northern New Mexico also has received some rain and snow. The moisture in the winter wheat sections has been particularly timely and observers agree that the condition is better right now than it was last season at this time, the rains having come early enough to revive the dormant plants and start the wheat growing briskly.

So far, also, the season has been favorable for early sowing of spring grains, with prospects good for putting in row crops on moist ground and intervals of dry weather for plowing or working up the ground plowed last fall. This applies in most of the plains region along the eastern slope of the Rockies. In the mountain districts the snow supply seems to have been sufficient to make the irrigation season safe, with spring further advanced than is usually the case and much more so than was true last year, when winter refused to move out till June 1st. Farmers are feeling good over the prospects. Orchardists are not over the critical period, but they are hopeful.

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School Building in War Times

This is no time for "business as usual." It is an unusual and abnormal period and we must, whether we desire or not, accommodate ourselves to the conditions. There is, however, such a thing as going to extremes in opposition to legitimate activities carried on during the war period. We have in mind now a community in Northern Colorado of which Windsor is the center, where the matter of voting bonds for a new school was recently under consideration. Some opposed the bond issue on the ground that all public work should be discontinued until after the war.

We heartily agree with the Windsor Poudre Valley in its editorial declaration that much of this opposition is merely "camouflage in evasion of duty," resorted to by citizens opposed to progress. There are some, however, who now oppose public improvements from a conviction that every cent of surplus cash should go into direct war work. These people are honest in their opposition, but, we think, mistaken.

This is no time for extravagance or luxuries in the line of public improvements, but better schools are a vital necessity. If the pressure of public opinion for school improvement in the rural centers should let up now, it might take years to recover lost ground. War has a tendency to create a laxness of discipline among people, even in places as remote from the scene of conflict as these mountain states. This loosening of the moral strings is quickly reflected by the youth of a community. If the young people are made to feel that anything is good enough in war times their mental effort will be in accord with the feeling of the adult population. It is impossible to get hundred per cent effort from pupils housed in a thirty per cent school, especially when a community is well able to do better by its youth. And just now it is absolutely essential to keep the young people in hand by providing for them such educational facilities as they deserve and need. We cannot lay aside our high ideals for the future American nation because we happen, for a short time, to be undergoing the depressive effects of a world war. If we are going to save let us apply the pressure to our appetites and cut down on the needs of the physical man, but do not stint when it comes to building up the mental qualities of a growing generation. We owe that to the nation.

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Competing With Nature

A maker of oleo is just now circulating a pamphlet containing a reprint from a magazine in which the following statement is made:

"Little serious effort is made to demonstrate that butter substitutes are not 'just as good.' It would be a difficult case to establish. Not only are these products 'just as good' but there is reson to suspect that they may be better. In artificial butters, due to federal inspection of the slaughter houses, the danger of tuberculosis is minimized, and in the butter substitutes made entirely from vegetable fats, this danger is eliminated."

There you have a fair sample of the unfair methods that have always characterized attempts to break down the demand for real butter and substitute on the American table an inferior imitation that cannot go before the public on its own merits, but must come in the color and, with the near odor and the synthetically produced taste of cow butter. As a matter of fact there is not the slightest suspicion of danger from tuberculosis from eating butter. The only reason for making that statement is to arouse the suspicious thot in the consumer's mind and, perhaps get him to believing that it is safer to eat oleo.

If he thinks twice, of course, it will occur to him that oleo, in which animal fats are used, may be just as susceptible to contamination, if such fats came from a tubercular animal, because not the whole of a tubercular carcass is discarded in packing house inspection.

As long as the oleo maker continues to attempt to create a prejudice against butter, so long will he find the buying public suspicious of his own article which seems to be one of a remaining few food products still sold by unfair advertising methods. He could, with justice and in fairness, say: "My product is clean and wholesome; it is cheaper than butter and makes a good spread for bread." When, however, he attempts to tell the consumer that he doesn't know what he is talking about if he prefers the exquisite aroma and taste of cow butter to what in market slang is known as bull butter, he cannot make it stick.

Nature has put up a barrier beyond which man's schemes and inventions cannot go. Oleo may be made with the color, the texture and almost the taste of butter, but there is a delicate aroma in butter that eludes imitation. It is manufactured by the cow's own secret process and is as much a part of her product as the flavor of honey is exclusively of the bee's product. It is the one thing that forces man to continue to keep the cow, to feed her well and treat her gently, so that she may continue to be the foster mother of the race, sustaining human life and making the soil more and more fruitful thru the return of fertility. The maker of imitation butter, or "vegetable milk," or near cheese might as well give up the unequal fight. There are some things that even modern business cannot accomplish.

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Labor Problem Is Local

In many of the industrial centers wages are so high that a large number of men are content to work only a part of the time. Either by public sentiment or industrial regulation—if need be by vagrancy laws—there must be a full utilization of man power. It is not possible for the national government to compel or even to direct such readjustments. There is not wisdom enough in this Congress or in any Congress that could be assembled to solve all these local and regional problems States, communities and individuals of influence must take responsibilit Washington can not create labor ar should not compel employment. Loc initiative and local responsibility mu be exercised to the fullest extent.

The farmers will do their full du in planting. The governmental age cies will do all that they can do ar we may reasonably expect a norm season. If the people of the commun es, especially of the cities, will assun their part of the burden, there need b no doubt of the result, but if the citi persist in plunging for profit and i enjoying their ease, expecting the go ernment and the farmers to wo miracles, then those who are neith fighters nor producers may suffer som privation.

CLARENCE OUSLEY,
Assistant Secretary of Agricultur

The Branding Iron

Applied by Elias M. Ammons

The results of feeding corn the pa winter have been disappointing. Th price has not only been abnormal high, but the corn has been light ar chaffy, so that a great deal more tha usual has been required to fatten me animals. While the price of hogs, f instance, seems to be very great, th cost of production is so much that som feeders are complaining that no pro is realized.

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It is now being estimated at Washin ton that there will be a shortage th year of fifty million barrels in the pr duction of oil. We are also told th known fields of oil will be exhausted fourteen to twenty years. Whether th will prove true or not it is quite certa that some substitute will soon be r quired. If the storage battery for ele tricity can be sufficiently improve nothing more may be necessary. Th contingency is so uncertain, howeve that it may not be depended upo There is one certain course for reli All restrictions should be removed fro the manufacture of wood alcohol a every possible encouragement given the government to increase its produ tion. It can be made from almost a waste vegetable matter. In the intere of true conservation there should be further delay in this movement.

✦ ✦ ✦

With corn too high to feed at a prof and barley and rye flour higher in pri than wheat, other substitutes must used for making meat. Thruout o mountain districts the problem may solved by growing peas. The San Lu Valley has long been successful in th direction. Other localities may equally well if they will only t Every little mountain ranch can pr duce some pork by growing a fe acres of peas, and there is no feed th will produce a better quality of por Peas will mature at a very high al tude, and indeed will thrive best whe no other hog feed will grow. On sma mountain ranches garden peas will found to produce best and a sufficie start for seed may be easily secur by saving what is left in the garder

✦ ✦ ✦

With the cutting up of the rang and the elimination of the larg flocks the prejudice against sheep dying out and many cattlemen are bu ing these formerly despised animals larger or smaller numbers. Farme and ranchmen are beginning to reali the advisability of keeping a fe sheep. The great need of wool duri the war makes it a patriotic duty produce as much as possible. Th keeping of smaller flocks and the be ter breeding and care will result larger lamb crops, less loss in wint and spring, and consequent great profit to the grower.

✦ ✦ ✦

Don't forget in planting this spri to provide substitutes for wheat a grains fit for breadstuffs and for po try and stock feeds.

✦ ✦ ✦

The high price for potatoes a ye ago led to the planting of a large cro Seed sold at unprecedented price help was scarce and costly, and th want of transportation prevented th marketing of a considerable portio of the crop. The loss was therefo considerable, and there is talk of a le acreage this year.

Comment by Farmer Putnam

MISSOURIAN GIVES HIS IMPRESSION OF A RECENT MEETING OF THE DENVER FARM BUREAU

OLD man Groves that used to be the editor of this paper allus calls me Doctor now, fur the reason because of my whiskers, and I'm beginnin' to think that maybe he's right. I didn't git no college eddication when I was a young feller, because where I was raised in Missouri they didn't have no colleges in them days and the only people that had went to college, if at all, was the doctors and preachers and not all of them did. We had a lot of professors in them days, but most of 'em was barbers with now and then a music teacher. Doctors was plentiful by title, but you had to guess from lookin' at 'em whether they was hoss doctors, or human doctor, or corn doctors, or medicine faker. All of 'em wore plug hats and most of 'em chewed plug tobaccer. That's a-bringin' me to the topick I want to expediate on today and that is my luck in havin' a lot of them professors and county agents for friends. Most of 'em treat me like I was one of 'em and no better than they is. It do beat all how democratic the world is gittin'.

I wasn't surprised the other day when Etc. Thomas called me up and sez the Civic association is goin' to have another one of them lunch-e-onns, and wouldn't I make it a point to be thar and take part; that George Smith and Bainer, and Liebers and Groom, and Prof. Robbins and some more of my friends would make talks and Governor Ammons would preside. I went. They charged us 75 cents fur the meal, but only 35 cents went fur food and the balance was sacrificed fur the starvin' Armenians. I hope the Armenians git more fur their half than we got.

Governor Ammons starts things by sayin' that the Stock Show was the best ever held and what was surprisingest of all was that it paid expenses. They is over 2,000 people employed at the stockyards now and its's got to be a big industry. He was talkin' to city men, so he sez them that cain't put in no crops theirselves ought to he'p farmers with a loan so's the food crops kin be increased.

Mr. Liebers talked about beans, sayin' that pintos had put Colorado on the map. Ten thousand growers signed government contracts to sell their pintos fur 8 cents a pound and about fifty million pounds was contracted fur.

George Smith, the county agent from Brighten, told us about the cow testin' association that they are startin' around Denver so's the city would git more cream in its milk in future. He sez the records over the country show that in the herds about one-third of the cows is making money fur their owner, one-third is about breakin' even and one-third is breakin' the owner, and the only way to find out is to weigh and test the milk and weigh the feed and keep track of what it costs, and that way you kin find out if your cow is payin' fur her keep, or is robbin' you.

The scheme is alright, but I wouldn't advise no dairy farmer with a weak heart to go into it; he might have palpertation and faintin' spells when he sees the record the first time.

He sez when they come to testin' there'll probably be a lot of cast-off cows fur sale around Denver. I recommend that they offer 'em to some of them backlot city farmers that's intendin' to raise their own chicken feed. They kin keep up a milk cow or two on the surplus—to hear 'em talk about it—and put the hens right on the cows and produce milk fed poultry.

The next feller was Prof. Robbins, seed laboratoryist—that thar is one of my own words and I think it's purty durn good fur a amateur word maker, now ain't it?

Prof. Robbins sez we had all kinds of slackers in this war, but none worser than poor seed which is cheatin' the farmer outen millions of dollars. He was tellin' about some eastern seed house—them western seed dealers don't do such things—that was drove outen Minnesota fur sellin' timothy-clover seed that had 34 different kinds of weed seeds in it. They're gittin' mighty pertickular now-a-days. I kin recollect when I was farmin' back in Platte county, Mo., I ordered some red clover seed and when the medder come up I counted about three dozen kinds of weeds that had never growed on the place before. I wrote and told the seed house about it and they sent me a new bill fur additional seeds furnished which wasn't on the original invoice.

Prof. Robbins told us about seed corn that he's been testin'. Outen 292 samples half of it tested below 70 per cent. Over 2,200 samples has been tested by the new seed laboratory in the first five months and seed men and farmers is takin' advantage of the free service.

Mr. Groom, the county agent at Littleton, fur Arapahoe county, told us about the troubles of a county agent. They got him to tell this because he hain't been a county agent very long. If they'd a-got some of them older fellers like Pueblo Smith or Las Animas Smith they would-a talked all day and all night, because the longer a county agent is in the service the more trouble he has got. That's what they're for. Groom sez the farmers think the county agent is afflicted with foot and mouth disease, because he's allus either chasin' around over the country or talkin'. To be a good county agent you got to be a veterinarian, a culinarian, a utilitarian; a Presbyterian one week and a Unitarian the next (accordin' to where you're attendin' services).

The next feller was Prof. Bainer, who works fur William G. McAdoo's favorite line, the Santa Fe. Bainer showed what the railroads was doin' to build up agriculture.

Then come P. L. Clarke, the school garden expert fur Denver. He's pushin' a chicken campaign and he sez that we kin use the vacant lots, of which we got 30,000 acres in Denver, to grow chicken feed, such as macaroni wheat, corn, milo, sunflowers, etc.

The last man to speak was Mr. De Boer, the city landscape gardener. He said he was a friend of the cottonwood tree. Goodness knows the cottonwoods needs friends; they're kind-a-like the Germans among us; everybody runs 'em down. De Boer sez they're good lookin', they resist insects—I mean the cottonwoods, not the Germans—and weather conditions, and is by all odds the best tree we kin grow in this country. I reckon he didn't think this would git into print, but he said it and he has to take the consequence. About the time the female of the species gits to sheddin' cotton on the lawns and ag'in the screens in some of them bungallows out in the Country Club place, why somebody's goin' down to the city hall and ask the mayor to have the cottonwoods chopped down. I think they're a purty tree myself, but I didn't have the nerve to say it in publick, because the cottonwood tree is about as popular in Denver as a prohibitionist is in Cheyenne.

THOMAS JEFFERSON PUTNAM

Flat Rate $10 for Beets

Since our announcement in the issue of April 1 of the report of the sugar beet price commission, recommending a sliding scale for beet prices of $9 to $10.60, or as an alternative, a flat rate of $10 per ton, the flat rate has been accepted by the factories, due to the expressed desire of a majority of growers. Contracts are being rapidly signed up and the outlook is for a good acreage.

The desire for beet contracts is further stimulated by the slump in potato prices in the Greeley district, where hundreds of cars of spuds will have to be dumped because they are spoiling in the cellars. Car shortage during the fall and winter is the principal cause of this waste of good food. Another factor is the lack of provision for handling surplus potatoes, or small unmarketable stock in the manufacture of by-products or in feeding.

Pork Exports to Allies

In a recent summary showing exports of food from the United States to the Allies, the Food administration announces these amounts of pork products shipped during the period July 1, 1914, to January 1, 1918:

PRODUCT	POUNDS
Bacon	1,216,877,289
Hams and Shoulders	775,847,401
Lard	721,250,233
Lard Compound	60,411,037
Fresh Pork	57,971,544
Pickled Pork	40,878,787

The total pork products sent to the Allies during the past three and one-half years amounts to nearly 3,000,000,000 pounds, or 30 pounds for every person in the United States. These figures show the important part American farmers have played thus far in furnishing food stamina for the Allied nations.

Help In the Busy Season

IN the rush of a busy season when somebody must get to town in a hurry, it's a relief to remember that your car carries Firestone Tires. Because with this equipment a woman can handle the car, safe from skid, spin or slide and practically insured against tire trouble.

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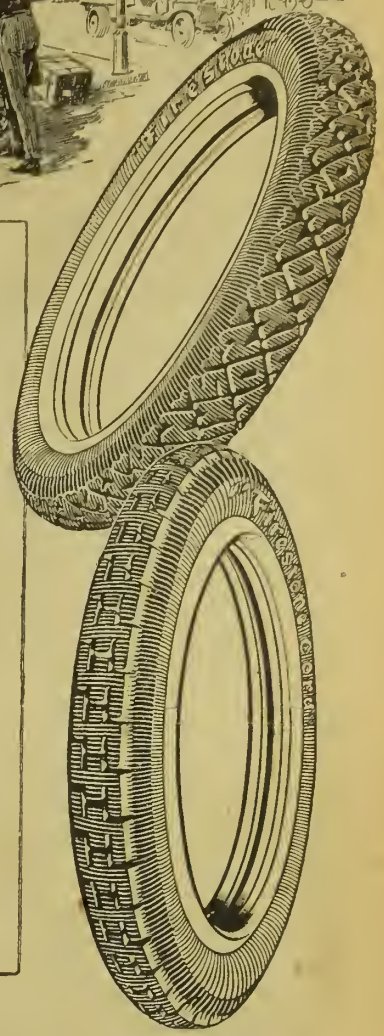

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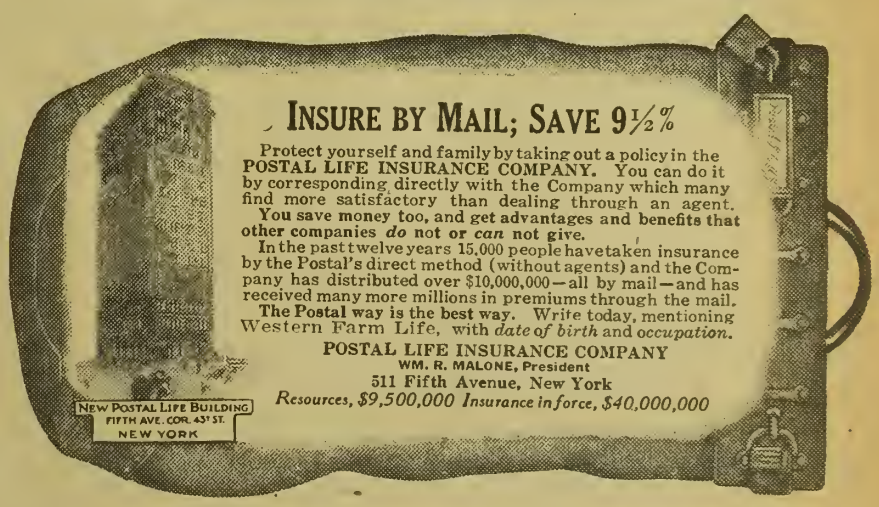

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Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

What Are Re-Cleaned Beans?

What is meant by re-cleaned pinto beans, and will the order enforced by the Food administration this year in buying our beans be a permanent thing?—A. H., Arapahoe county, Colo.

The wholesale purchase of our entire crop of pinto beans by the Grain corporation of the United States Food administration applies only to the beans grown in 1917. However, the Food administration is providing a permanent market in the east for pintos. The development of this market, without a cent of cost to the growers, is really worth a lot more for the future, than the purchase of the 1917 crop. In order to hold that market it will be necessary for us to market only choice re-cleaned beans, as the pintos must hold the public demand in competition with hand picked white beans. Following is the requirement adopted by the Rocky Mountain Bean Jobber's association and approved by the government in its big purchase of pintos:

CHOICE RE-CLEANED (after threshing) through a bean cleaning machine, and shall be a uniform run of bright, sound, dry, medium to to large pinto beans; and may contain in weight not over one-half of one per cent of dirt, adobe, small stones or foreign matter; and may contain not over one and one-half per cent of split beans, and six per cent of weather-damaged, shrunken, frost-bitten or discolored beans. Weather-damaged, shrunken, frost-bitten or discolored beans shall include only such beans as, when split, show meat discolored or darker than the meat of the rest of the healthy beans in the sample.

Pasturing Alfalfa

Answer to E. G., Eagle county, Colo.:

We know of no successful means of protecting cows against bloating on alfalfa pasture, except to see that they are never turned in when their stomachs are empty and never on wet alfalfa under any circumstances. The danger of bloating is always present and we do not think the wearing of a bridle bit will help, except that it might force the animals to eat more sparingly.

Sodium Nitrate Fertilizer

Answer to Rancher, Wyo., on use of Nitrate of Sodium as Fertilizer:

Nitrate of soda should be applied to growing plants in three or four top dressings, depending upon the crop treated. The first application should be made when the plants are well started and succeeding applications at intervals of about ten days or two weeks. From 80 to 100 pounds per acre should be used at each application. The Nitrate should be ground into small particles, if it does not come that way. It should be applied so that it does not come into direct contact with the foliage of plants, otherwise the leaves will be "burned." There are machines on the market for applying this fertilizer. Nitrate of soda is sometimes applied to the soil in relatively large amounts before planting the crops, but it is better economy to use as a top dressing to growing plants.

Blackleg, Cause and Prevention

Answer to question as to what causes blackleg in calves and what can be done to prevent it:

"Blackleg is caused by a small germ, an organism about one three-thousandth of an inch long. This organism multiplies very rapidly by one organism dividing into two individuals and these again dividing in the same way. Also by producing very much smaller spores or seeds. These spores are very hardy and resist extreme heat and cold remaining alive sometimes for many years. As a consequence when a pasture, corral or feedlot is once contaminated with the organism, there is no telling how long it will harbor the infection. Disinfecting such premises is impractical. Safety lies in vaccination. In all contagious or germ diseases the animals most likely to get sick are those whose constitution is more or less weakened from any cause—at weaning time, after changing from poorly fed to heavy feeding or vice versa. Immunizing beforehand insures safety. Highly bred calves are also more susceptible than scrubs. Many operators report perfect results when they vaccinate at the same time they brand, dehorn, or castrate. Vaccinate any time for blackleg.

When a calf is turned upon infected ground it picks up some of the spores which gain entrance to the body in various ways—through the bruised skin, through the mouth, either with the food and water or merely by the animal licking itself. These spores immediately come into active life, begin to grow and multiply, and if the animal is a susceptible one it contracts the disease. If it is immune the germ will have no effect whatever upon it. Therefore, immunize the calf with a reliable vaccine before it picks up these organisms."

Oil Drilling On Homesteads

Answering your inquiry of the 10th in regard to drilling for oil on your homestead: We are advised by the U. S. Land Office that a homestead entryman has exclusive rights of the land covered by his homestead and cannot be disturbed in his possession of the same. If the parties who desire to prospect for oil cannot agree with the entryman, their remedy is to contest the entry on the ground of the oil character of the land and have same determined by a hearing in the local land office.

Heaves in Horses

Answer to E. R. M., Bridge, Ida.:

Heaves is a very common and annoying disease of horses, interfering seriously with the usefulness of the animal, and consequently detracting from its value. Mainly a disease of old horses, it is essentially the result of faulty feeding and working, especially hard pulling or fast driving when the stomach is overloaded. Gross feeders are frequently subjects of heaves.

While in old, established cases there may be alterations in structure of the heart and stomach, the principal changes are observed in the lungs. These consist first in an enlargement of the capacity of the air cells through dilation of their walls, followed by a passage of the air into the lung tissue between the air cells. Owing to such structural changes, it is impossible to prevent progressive development of the disease, which, however, under proper care, may go on slowly, the animal remaining serviceable for certain kinds of work for years.

Indigestion is frequently observed in these cases, and the horse may have a depraved appetite, as shown by a desire to eat dirt and soiled bedding; and there is a tendency to the condition commonly termed "potbellied." The animal, tho a heavy feeder, becomes unthrifty and emaciated. A poorly ventilated stable, humid weather, severe work, and overfeeding with coarse, dry feeds tend to aggravate the trouble.

It will be an advantage to dampen the food with a mixture of one part of molasses to three parts of water, so that no dust may arise while the animal is eating. It is also desirable to restrict the amount of hay or forage, as large quantities of bulky feed which distend the abdomen increase the difficulty, and an animal with heaves should never be driven or worked when full of such material.

In these cases Folwer's solution of arsenic may be given in doses of 1 ounce in the drinking water three times daily. Ordinary lime dissolved in drinking water (limewater) will be found beneficial. Lime may be added to a barrel or cask of water, and after the resulting mixture has become clear through precipitation of undissolved portions of the lime the limewater may be used freely in watering the animal.

Binder Twine Prices For 1918

After investigating the costs of manufacturing binder twine, the U. S. Food administration has announced that the price to the dealers of standard and sisal twine, 500 feet to the pound, should not exceed the present price of sisal fiber, which is 19 cents per pound, by more than 4 cents per pound f. o. b. factory, when sold in carload lots of 20,000 pounds or more. An additional increase of one-eighth cent is allowed for lots of 10,000 pounds and one-fourth cent in smaller lots.

Prices for other grades of twine should not exceed the prices of standard and sisal twine by more than the following amounts:

550 feet to the pound.....1¾c increase
600 feet to the pound..... 3c increase
650 feet to the pound.....4½c increase
650 feet to the pound (Pure Manila) .....6c increase

About 80 per cent of the entire output of the binder twine factories of the United States is standard or sisal twine. The retail price should be not more than 1½ cents, with freight added, above price paid manufacturer.

While the price of standard and sisal twine this year is about 4 cents above the price prevailing at the end of last season, it is explained that the price of sisal fiber advanced during the manufacturing year, 1916-1917, from 7¾ cents to 16½ cents. In August, 1917, it advanced again to 19 cents per pound, where it has remained to date.

$1,300,000,000 or more of the Liberty Loans will be used to construct a great merchant marine to preserve the line of communication between America, across the stormy Atlantic, and our gallant boys who are upon the fields of France, and to carry your commerce, the products of our farms, of our mines, and of our factories to all the nations of the earth in defiance of the Kaiser and his deadly submarines.—Wm. G. McAdoo, Secretary of the Treasury.

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Should We Lend Implements?

QUESTION BRINGS OUT INTERESTING LETTERS

In the last issue of the Western Farm Life I notice you were asking expressions from your readers in regard to borrowing and lending. As the wagon is going to town Saturday, if the weather is good, I will get this ready to send out. Now I see where you have started something and venture the prediction that when you get thru you will be just where you were when you got thru talking to the Missus about it. You probably realize that there is a good deal that can be said on both sides of the project and every bit as much more that better not be said at all.

From our own experience we can say that very much more depends on the person doing the borrowing than on the article asked for. We have some neighbors whom we are always glad to lend anything we've got, for we know it will be returned all in good time and in as good or better condition than when it left the place. On the other hand we have neighbors who are pretty much otherwise, and the less we accommodate them the better friends we are all around. We had to borrow tools when we were first getting a start on the homestead and we sure felt good when we had something we could lend to those who so generously helped us out. I remember one summer we were having the time of our lives trying to keep the weeds out of the corn when a neighbor happened along and saw the predicament we were in. "I've got a machine," he says, "that will clean those weeds out with less than half the work you are doing. I am not using it and you might as well come over and get it. Give it a try-out any way." We got the machine, brot it home and found we couldn't use it, as the corn rows were too close together. However, the spirit in which the machine was offered went a long way with us and the incident will never be forgotten.

There is a class of people peculiar to all new sections of the country whom we are very slow about lending to or helping in any way. I believe other homesteaders have had experience with them too. I refer to the people who file on a piece of land and have no intention of staying or making their home here and help develop the country.

That kind of people who make all their improvements with borrowed tools soon find they are very unwelcome. We are always glad to lend tools and seed to anyone when we see they are here to stay, for we realize that what helps our neighbors also helps to build up the country and therefore helps us.

Mr. Editor, what do you think of farmers who can buy a buzz wagon, and always have money to buy gasoline and then are so hard up they can't buy tools or sced and try to sponge them off their neighbors? It does seem tough, but I believe I would rather have a farm outfit all complete than to have a gasoline car and have to be running to the neighbors for this and that and the other thing.

As I look at it, a family or individual need not be ashamed to borrow from their neighbors as occasion demands, but they ought to be if they allow it to become a habit and learn to depend on their neighbors instead of themselves.

If there is anything the Golden Rule applies to, in human affairs, more than borrowing and lending I would like to know what it is. This subject has been the cause of making friends among people and making friendships more secure than any other one thing I can recall at this moment. And on the contrary, it has been the cause of losing many a friend and the cause of life-long bitterness among those who should have more common sense, than to let trifles come between them. I have lived in both town and country and I can say, from my own knowledge, that the country people are, as a rule, more whole hearted, full souled and have more humanity to man in their make up than have the people of the cities. Nor are the town dwellers to be blamed for this condition of things, but rather to be pitied, for how can they very well help it? Surrounded as they are by immense piles of brick, stone and iron that it gets into their hearts and crushes out what few generous impulses their hearts ever contained.

Now, Mr. Steinel, if you can make anything out of this you are welcome to it, and as there are several things I am going to try to borrow from my neighbors, I will close by signing my name Old Shady, so they won't know who wrote this.

OLD SHADY,
Kiowa county, Colo.

Arrested For His Kindness

About lending implements. Under date of March 1st you are asking the Farm Life readers to have an argument on lending implements. I always try to keep my mouth shut when there is an argument going on, but have never had any experience with propounding any question on paper, so here goes.

One of your readers would like to know if it would be stingy or mean not to loan tools, when at times you have to go after them, only to find them broken or out of repair, causing a trip to town and possible a wait of three or four days fr repairs to come. I don't know what part of the country this man is in, and don't think it makes any difference, as most places are alike in this respect.

It puts me in mind of when I was a little shaver. Father instructed me to go over to Mr. Blanks and get his hay rake that he had loaned him some time before. When I arrived at his place he informed me that he had loaned it to Mr. Soandso, two miles farther down the lane. Mr. Soandso directed me over to the N. E. quarter of his S. E. quarter section where he had used it last. So arriving in this part of the country safe and sound I hitched Dad's poor old pelters to the rake and started for home. By the time I got home and put the team in the barn, got one sock off and about ready to roll in bed, Dad raps on the door and tells me to get up as it is getting late and time to rake hay. So by the time I got my clothes on and got out to the barn I had the pleasure of meeting the sheriff with a warrant for my arrest, for taking the double-trees that were one the rake belonging to Mr. Soandso.

Yes, it's a common thing for us to lend our tools and implements to a very few such neighbors and have them forget to bring them back, or have them returned in bad condition. But this world is composed of all kinds of men, and it's better so. On the other hand it is a pleasure to lend tools to the most of your neighbors. Also to ask favors from them. It makes no difference if each man has all the implements and tools he can use, there are times when you will break down. That's when you would think a neighbor both stingy and mean if he refused to lend you his, when not in use.—H. R. Adams, Shaw, Colo.

Offers Sensible Solution

I have read about lending implements in your last issue and as I have had quite an experience in this matter I wish to pass it on. I took up a homestead (dry farm) in Lincoln county, Wyo., thirteen years ago. It is right near the Idaho state line, hence my postoffice address, Raymond, Ida. When I started I had quite a hard row to hoe. I had just married and but a few hundred dollars capital, but I managed, without abusing my credit, to get started in the dry farming business. Well, as soon as I had a new wagon, harness, buggy, etc., my neighbors began borrowing of me. Of course, I loaned every-

(Turn to page 13)

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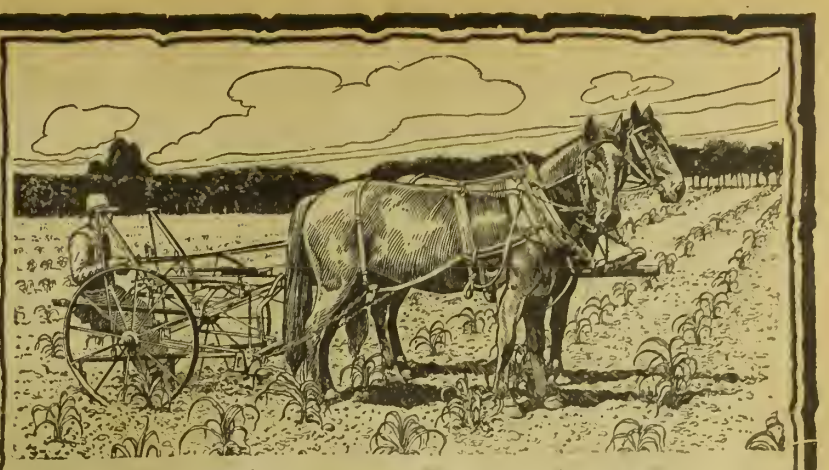


For Clean Cornfields

IF YOU buy a cultivator this year buy an **International.** It keeps the surface soil in good lively tilth and free from weeds.

International No. 1 is built for deep early cultivation, shallow late cultivation, and for laying by. It is a high-arched, pivot pole cultivator of unusual strength and light draft, is easily handled, and has the parallel gang movement so necessary for good, clean work close to the corn. Gang equipment consists of 4, 6, and 8-shovel gangs, pin break or spring trip, with round or heavy slotted shanks.

International No. 4 is built for use in fields with crooked rows, on hillsides, and for narrow-row crops like peas and beans. No. 4 has a pivot axle and frame that makes quick dodging easy, while keeping the gangs parallel and the shovels facing squarely to the front. It handles easily, does clean close work, and can be adjusted to meet practically every condition of soil, surface, and planting irregularity.

The **International** line includes two-row cultivators, walking, and combined riding and walking cultivators—a complete line. See the local dealer or write the address below for catalogues.

International Harvester Company of America
(Incorporated)
Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.

Kansas Germ-Free Fluid Vaccine for **Blackleg**

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died—FIELD BOHART, Colorado Springs, Colo.

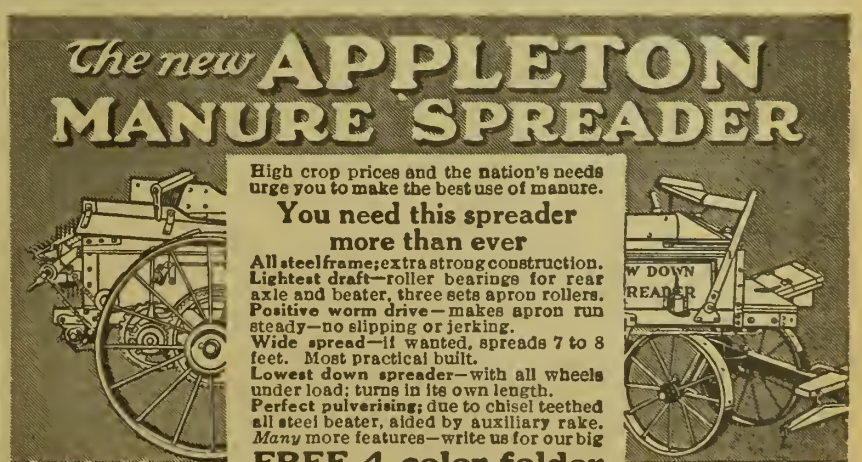
We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

The Kansas Blackleg Serum Co.
LIVESTOCK EXCHANGE BLDG., ROOM 407, DENVER, COLO.

The new **APPLETON MANURE SPREADER**



High crop prices and the nation's needs urge you to make the best use of manure.

You need this spreader more than ever

All steel frame; extra strong construction.
Lightest draft—roller bearings for rear axle and beater, three sets apron rollers.
Positive worm drive—makes apron run steady—no slipping or jerking.
Wide spread—if wanted, spreads 7 to 8 feet. Most practical built.
Lowest down spreader—with all wheels under load; turns in its own length.
Perfect pulverising; due to chisel teethed all steel beater, aided by auxiliary rake.
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Name Town State

Dairying and Hog Raising

GEO. E. MO TON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

To get a clearer idea of how dairy products meet present-day needs, the following comparisons are made on milk:

One quart of milk on an energy basis equals: 2 pounds chicken; .79 pounds steak; 8 eggs; 3.35 pounds oysters; 7 oranges; .76 pounds of fish; 6.55 pounds tomatoes, ½ dozen bananas; .79 pounds English walnuts; 3.5 pounds asparagus.

Figuring this on a price basis (Colorado's prices, March, 1918), one quart of milk at 12½ cents is worth as much as: 60 cents worth of chicken; 28 cents worth sirloin steak; 20 cents worth of eggs; $1.33 worth of oysters; 22 cents worth of fish; 40 cents worth of oranges; $1 worth of tomatoes; 17 cents worth of bananas; 21 cents worth of English walnuts; $1 worth of asparagus.

Good milk at 15 cents per quart is by for the cheapest animal food on Colorado markets today, and the more the consuming public use of it the cheaper will be their living expenses, and the better nourished will be the people—Roud McCann, Colorado Agricultural College.

Odors in Milk

Warm milk at the time it is drawn from the cow readily absorbs from the air of the stable certain substances which impart to the milk disagreeable odors and tastes. When milk is allowed to stand in a poorly ventilated or unclean barn, the characteristic odor and taste of aromatic feeds such as beets, ensilage and turnips may be imparted to milk in the same manner. This may lead one to believe that the trouble is due to food which has been eaten, and that the odor and taste have been eliminated with the milk through the udder.

Ordinarily the condition can be corrected by the prompt removal of the milk as soon as drawn from each respective animal and placing it in the milk house where facilities for the proper and immediate cooling are available.—Wm. H. Feldman, Colorado Agricultural College.

Jerseys at High Altitude.

Please send me a photograph of the cow marked same as you sent to W. R. of Utah. I have one I am undecided about. Also, please tell me if you think high altitude has any bad effect on Jersey cattle. Last July I bought a cow, almost purebred Jersey and a beauty, too. Came in on July 12, and gave about four to four and one-half gallons milk per day. She was in fine shape. Now is poor and her coat is rough. She is five years old and this is her third calf. She is only giving about one gallon milk per day now. Will be fresh again latter part of May. I am feeding alfalfa and timothy mixed with a little old hay. Stable the cow nights and feed in open rack in day time. She has plenty of good well water, and salt to go to all the time. She don't seem sick, and has a fine appetite so I don't like to lose her. As all the Jerseys up here look about the same we think may be its too high for them. We live at between 7,000 and 8,000 ft. Is there a Brown Swiss Cattle Breeders association in Colorado; if so where?—B. E. R., Chaffee County.

I am enclosing photograph of the cow marked as you request. There is no doubt that bringing cows from the east into a high altitude will cause a reduction in the milk flow during the lactation period. Extremely high altitudes cause a disease that is called brisket disease. This only occurs with some animals. It is a form of dropsy, and is relieved by taking animals back into a low altitude. It is the result of a strong heart action. This cow of yours probably has been affected by the altitude, and it will take some time for her heart to accustom itself to the greater labor required of it. You should feed her well, and see that she is well taken care of until she becomes acclimated. It probably will take a year or better. Occasionally there is an animal that never becomes acclimated. The hay you are giving the cow is good. I would feed her some grain, preferably oats, if you have them. There is a purebred Jersey herd run in the northern part of the state, at an altitude of about eight thousand feet, and it has been run there for years; so you need not think that the Jersey will not adapt itself to your altitude. There is no Brown Swiss Breeder's association in Colorado. There are a few Brown Swiss cattle in the state, chiefly in the Plateau Valley, and around Grand Junction.—G. E. M.

Treatment for Hog Worms

The popular opinion that soda lye possesses preventive and remedial properties against worms and other intestinal parasites has, by a recent experiment carried out by the United States Department of Agriculture, been proven false. Hogs were fed soda lye for a period of two and one-half months and according to the report the extent of infestations increased during the course of the experiment.

The Department further points out that since soda lye has no effect on parasites in the comparatively simple digestive tract of hogs, in the complex alimentary canal of cattle and sheep, its opportunity to influence parasites is further lessened.

A safe and effective hog tonic and worm remedy is offered by the University of Missouri College of Agriculture: Sal soda, 3 pounds; Glauber's salts, 3 pounds; Copperas, 3 pounds; Sulphur, 1 pound; Charcoal, 4 pounds, and common salt, 3 pounds.

Mix thoroly and keep in a trough in a conveniently dry place. When the herd is seriously infested with worms it is well to use santonin, 6 grains; calomel 4 grains, per hundred pounds weight of hog. Feed in a thin slop after hogs have had no food for a day or two.

In the event that santonin can not be obtained, satisfactory results may be expected from finely powdered copper sulphate, at the rate of a level teaspoonful to the hundred pounds weight of hogs, given in the manner recommended for the use of the santonin and calomel.

It is advisable to confine the hogs for a period of two days following the administration of the drug, in rather limited quarters apart from the regular hog lots. After the hogs are released from the pen the live worms and eggs expelled by the treatment may be destroyed by a strong stock dip solution or a coating of freshly slacked lime to prevent reinfestation.

Wants Holstein Heifers

Answer to H. S. Nicholson, Malpie, N. M., who wants 20 Holstein heifer calves:

Colorado is importing both cows and calves, and you would find it very difficult to pick up twenty heifers close enough together so that you would have a reasonahle assemblage cost. It should be possible to get someone in your state to go back east for a selection of calves, if you can secure orders enough from Boys' and Girls' clubs, or if necessary, orders also for dairy cows from dairymen to ship in carload lots.—G. E. M.

Teats Need Treatment

Reader, Superior, Colo.:

The milk from your cow should not be used for human food, and should be boiled before being used for pigs or calves. It is not necessary to dry the cow up, however. I would press out the pus and wash with hydrogen peroxide several times a day for a day or two, and then paint the pustules, but not the entire teat, with tincture of iodine. Do not paint the teat more than once until the iodine has pretty well worn off, or it will take the outside skin off.—G. E. M.

No Condensery Yet

J. T. C., Pagosa Springs, Colo.

A condensery requires a volume of about 30,000 pounds of milk a day to return a profit on the investment. It requires a very large investment in capital and should have 3,000 cows supplying it. I am quite sure that no condensery would consider locating at Pagosa Springs, as they require a very active dairy sentiment and a large number of dairy cows in any community which they go into. It will be advisable for you to go ahead with the creamery or cheese factory market until you have a strong dairy industry, and then it might be possible to get a condensery in.—G. E. M.

Who's Right, Pigs or Professor?

That three and one-half billion pounds of milk are practically wasted in the dairy states every year is the more or less startling statement attributed to Prof. R. M. Washburn of the division of dairy husbandry, Minnesota College of Agriculture. This waste, fed to hogs in the shape of skimmilk, says the professor, produces only 20 per cent of its energy value in edible pork; 80 per cent of its energy value is lost. He calls attention to the fact that much more of the energy value will be saved if the skimmilk is made into cottage cheese.

He fails to tell us who is to consume this great quantity of cottage cheese, or what is to take the place of skimmilk in the ration for growing pigs. He does state that some of it is advisable in starting the pigs off strongly, but maintains that the indiscriminate feeding of skimmilk to pigs

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AND THEY GET IT
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IOWA CREAM SEPARATOR
The "IOWA" Cream Separator is the only Separator with the Patented Curved Disc bowl, the World's closest skimming device.
The "IOWA" Separator
OUTSKIMMED All Competing Separators
in the official Skimming Tests made by the jury of Dairy Experts at the last World's Fair, San Francisco.
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"FACTS" tells why the "IOWA" skims closest under all farm conditions. "FACTS" describes the famous Curved Disc Bowl, gives results of actual skimming tests made on farms and by all leading Agricultural Colleges. Free. Write
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PATENTED CURVED DISC
CURVED DISC BOWL

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$29 Buys the New Butterfly Junior No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in five larger sizes up to No. 8 shown here.
30 DAYS' FREE TRIAL Earns its own cost and more by what it saves in cream. Postal brings Free catalog-folder and "direct-from-factory" offer. Buy from the manufacturer and save money.
125,000 now in use
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WEAR OVERLAND ALUMINUM SHOES
From Factory to Feet
For all rough, wet work on farm or elsewhere. Outwear other boots or shoes. Light and easy on feet. Water-proof, rust-proof, rot-proof. Shaped like army shoe. Easy walking. Warm in winter; cool in summer. Cushion Insoles. Money Back Guarantee. All sizes. FREE catalog shows styles and prices. Write for it. A postal will do.
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All Steel ~ a Work Saver
THIS all-steel churn is just what you have been waiting for. Make good butter without the hard work. Drawn steel barrel, heavily tinned inside—easy to clean—sanitary—cannot soak up moisture. Beautifully trimmed in red and blue. Ask your dealer or write us for Circular No. 96
Sturges & Burn Mfg. Co., Chicago, Ill. Established in 1865
Sturges Steel Churns

$17.95 Upward American CREAM SEPARATOR
On Trial. Easy running, easil cleaned. Skims warm or col milk. Whether dairy is large o small, get handsome catalogu and easy monthly payment offer. Address
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is virtually throwing food away.

The dairy farmer who has been following advice for years considered orthodox and has been feeding pigs on skimmilk, in the belief that he was making pork by economical means, refuses to get excited over Prof. Washburn's statements. The farmer will conclude that if skimmilk made into cottage cheese is good for humans it will continue to be good for pigs before the water is squeezed out of it. If he follows the Professor he may find, some of these days, that nature has made a mistake in allowing calves to grow up in the belief that skimmilk is good for them.

The professor's conclusions may be "scientifically correct," but a little more evidence from the feedlot will be necessary before the farmer can accept them as basis for pork making. If he is correct the pigs have been fooling the farmer for a long time.—A. T. S.

Cutter's

Germ Free

Blackleg Filtrate

and

Blackleg Tissue Aggressin

The New, Safe and Efficient Agents for Protecting Calves from Blackleg.

Cutter's Blackleg Filtrate positively protects against Blackleg.

Cutter's Blackleg Aggressin, made directly from animal tissues, **affords even greater protection** and is recommended for Pure Breds.

Neither the Filtrate nor the Aggressin can possibly produce Blackleg in even the most susceptible animals since **both are germ free.**

Both have given 100% protection wherever used.

Prices—

10 dose pkge. Filtrate	$2.00
50 " " "	8.00
100 " " "	15.00
10 dose pkge. Tissue Aggressin	4.00

N. B.—Cutter's Filtrate (a "cultural product" aggressin) is full 5 c.c. to the dose, as we believe that smaller doses, whether concentrated or not, afford less protection.

Write for booklet telling what germ free vaccines are and wherein **"cultural product" Aggressins differ from Cutter's Aggressin** made from animal tissues.

While these new "germ free vaccines" have advantages that should be known to every stockraiser, we see no reason for a quick change to them by stockraisers who have had satisfactory results from the use of

CUTTER'S BLACKLEG PILLS

"California's Favorite" for nearly 20 years

Year in and Year Out they have given better satisfaction than any other vaccine made, and as far as price and convenience of administration are concerned, they have all the advantage.

Prices:

10 dose pkge. Single pills	$1.00
50 " " " "	4.00
10 dose pkge. Double Pills	1.50
50 " " " "	6.00
Cutter's Pill Injector	1.50

Insist on Cutter products. If unobtainable, order direct. **We** pay shipping charges.

The Cutter Laboratory, Berkeley, Calif.
(U. S. LICENSED)
"The Laboratory That Knows How"

Silos In the San Juan

County Agriculturist E. D. Smith of La Plata county, Colo., recently sent out letters to silo owners in that county, asking them what their experience had been with silos and the feeding of ensilage. The replies are interesting and they are being used with effect by the agriculturist in inducing others to follow the example of their silo-using neighbors. A summary of the replies, averaging up the results, together with the questions, follows:

(1) What is the capacity of your silo? Answer: 70 tons.

(2) Average cost per ton capacity to build? Answer: $3.50.

(3) Average yield of silage per acre? Answer: 7 tons.

(4) Average cost to produce a ton of silage? Answer: $3.24.

(5) Kind of silo? Answer: 54 per cent were stave; 38 per cent were pit; 8 per cent concrete.

(6) State your opinion concerning the value of silage for feed for cows, stock cattle and sheep. Answer:

"Best I ever used for sheep. Never had stock to do so well on any other feed. Any farmer can hold 300 to 400 sheep upon his farm without any outside range."—T. D. Harris.

"Excellent. Everything on the ranch eats it. Fifty-one hogs have wintered on silage and alfalfa and are very thrifty. Great feed for milk cows and calves."—Bell H. Lacy.

"With alfalfa, it cannot be beat."—Ed P. Biggs.

"Fine for fattening steers and sheep, and best for dairy stock."—E. J. Hays.

"From one-third to one-half as valuable as alfalfa. Have used amber cane for silage with good results."—J. V. Hays.

"Ensilage is a fair substitute for green grass."—Chas. Schofield.

"I feed it to twenty-five head of cattle and ten head of horses and colts this winter. They have a rack full of straw to run to and receive a feed of silage once a day. Everything is fat."—Geo. Frary.

"Can tell almost to the day when we cease feeding silage, in the reduced milk flow. We should like to have ensilage for all cattle and sheep the year round."—Prof. Snyder.

"I believe it to be the best and cheapest feed we can produce."—T. F. Holder.

"Stock cattle and sheep do well on silage. Sows fed on silage do better than on hay alone."—Ed Ellis.

"Ensilage is an excellent feed for dairy cows. It is by far the cheapest feed a farmer can raise, and saves much of the present high-priced alfalfa."—E. J. Maxwell & Son.

"There is no feed more relished by cattle than silage. It is produced at a less cost per ton than any other feed of equal value."—O. R. Silliman.

"Have fed some broken mouth ewes this winter at the rate of two pounds of silage daily, with some wheat straw, and they are coming thru in excellent condition."—Mitchell Bros.

Should We Lend Implements?

(Continued from page 11)

thing I was asked for. This went on for a number of years until it cost me more for what other people used—my machinery, tools, etc., than what use I got from them.

Then one New Year's day I decided I would not loan another thing to anybody in the future. Well, it was only a few days until one of my nearest neighbors came over to borrow some machinery from me. I told him the resolution I had made, but hated to refuse him, so I immediately hit upon a plan. I asked him when he would bring it back. He told me. Then I told him he could have it, but if he did not bring it back on that very day I would never loan him another thing. I told him my experience and showed him that I absolutely had to adopt some such plan.

Well, he did not bring the machine back. Some thirty days later I went to his place and got it. Well, there were others that I loaned to the same way, but I have gone to nearly all of them and got my property, usually more or less damaged.

Practically every one of them came again to borrow. I just naturally told them of our agreement last time, and refused to loan to them again. Some even tried three and four times, but I stood pat.

Well you know these people all acknowledged to me then and there that I was right and they did not blame me a particle. The scheme was a perfect success. Of course a few people still borrow of me, but nothing has failed to come back on the date agreed to for years.

The principal thing is to be sure that they understand you; then if they do not bring it back as agreed, their own commonsense will keep them from asking you again and you will be spared the disagreeable task of refusing them. Then, again, it is up to you to lend your neighbor anything you possibly can afford to loan him, if he will bring it back in good shape on the day agreed. I know this plan is saving me about $200 a year and I think it is worth passing along.—Gustave Peteriet, Raymond, Idaho.

P. S.—If anyone has a good plan for an overshot water wheel please pass it on.—G. P.

Exemption for Farm Workers

The following statement has been issued by the United States Employment Service of the Department of Labor:

"A new draft of about 90,000 men shortly will be called to the colors. The Provost Marshal General has ordered that 'men actively, assiduously, and completely engaged in the planting or cultivation of a crop but who are listed in Class 1 of the draft and within the new quota should be deferred until the end of the new quota.'

"The local draft boards, being judicial bodies, can not defer the call of such men, however, unless the farmers employing them support their claims for such deferred classification with affidavits. It is therefore of vital importance that farmers immediately execute and file such affidavits with the local boards.

"If farmers whose hands are affected in this new call fail to follow this advice, they should have no cause for complaint if their men are taken from them at this critical time. It will be useless and unreasonable later to protest if they have done nothing to retain their help. Immediate action on the part of every farmer whose employes are affected is essential and should not be delayed under any circumstances."—The Official Bulletin.

Employment of Women

The following is from the Special Information Service of the U. S. Department of Agriculture:

As a rule the employment of women in farming operations should not be considered if the agricultural production can be maintained by the employment of men and boys. The department of agriculture does not wish to urge the use of women laborers on the farms unless the man supply becomes exhausted. The lively interest now being shown by women in all parts of the country who are eager to volunteer their services to help the men and boys carry out the nation's food production program this year has forced the attention of federal officials to the fact that needed work can be done by these willing hands. Women who can help farm women with their work and who can release men in the lighter industries to do the heavier work on the farms can give valuable aid in the present labor emergency.

"There is no Half-way House between Victory and Defeat."—Lloyd George.

Exports of wheat from the United States to the Allies between July 1, 1914, and January 1, 1918, totaled more than 389,000,000 bushels. Wheat flour exports exceeded 24,600,000 barrels. The total in terms of wheat shows that the United States has sent the Allies nearly five bushels of wheat for every person in this country.

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FOR ONE-THIRD WHAT THE MILK WILL SELL FOR

Contains all necessary food elements to fatten calves quickly, and keeps them in good condition. If your feed dealer cannot supply you, we will ship you direct for trial in lots of one hundred pounds or more with a guarantee that if your feeding test does not prove every claim we make to let you return what you have not used and pay what you think is fair. Manufactured and guaranteed by

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Time and again cattle have sold on the Denver market for higher prices than the same cattle would bring same days at the Missouri River.

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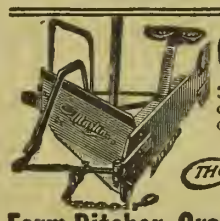
FOR SPRING SOWING. From locality where it grows best and most abundantly. Our seed won the Gold Medal at the St. Louis World's Fair, in competition with the world. We also handle White and Yellow Sweet Clover. Write us for prices and free samples. Address McBETH SEED HOUSE, 320 Main, Garden City, Kan.



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Made of steel and built to last. Reversible and adjustable. Horse and tractor sizes. Works in any kind of soil—wet or dry, hillside or level. No plowing required either for new ditch or for cleaning. A big time saver.

10 Days' Trial—Money-Back Guarantee

Write for complete catalog and list of users near you. Postal will do.

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Big Money in Running Water

Let us start you in business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an

One Man One Team

Improved Powers Combined Well Boring and Drilling Machine

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

There is a big demand for wells to water stock and for irrigation.

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co.
Box 943 Clarinda, Iowa

Stack Your Hay The Easiest Way "The Jayhawk"

Stackers and Sweep Rakes

Harvesting hay the Jayhawk way means time, men and money saved. Jayhawk Stackers and Sweep Rakes make it easy to harvest and save every hay crop. Pays for itself the first year. Fully guaranteed. Sold direct at manufacturers price. Write today for free catalog and price list.

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The Grange

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C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 415 Charles Block, Denver, Business Agent and Secretary.

The Colorado State Grange strongly advocates the conscription of labor for the farm. State Master John Morris has, on frequent occasions, expressed the opinion that this is the solution of the problem confronting agricultural districts all over the United States. It will be of interest, therefore, to all grangers to know that South Dakota has taken legal action toward conscription of labor for the farms. At the recent session of the state legislature a stringent law was passed to this end. A penalty clause provides a fine of not less than $5 nor more than $1,000, or imprisonment in a county jail not to exceed thirty days, or both fine and imprisonment for violations of the law, the chief provision of which is as follows:

WHEREAS, It may become necessary to impress into the service of the state, or of any person, group of persons, firm, association or corporation, persons who are idle and unemployed, in order that production of food and supplies of all kinds may be increased for the purpose of winning the war;

THEREFORE, The State Council of Defense is hereby given and granted full power and authority to impress into the service of the state, or of any political subdivision of the state, or of any person, firm, association or corporation, any persons, who, in its opinion, are idle and unemployed and whose services may be required and are necessary to carry on or increase the production of food and supplies of all kinds for the purpose of winning the war; and to that end the said State Council of Defense may provide for such system of registration and classification, and make any such rules and regulations and orders as may be necessary to carry out the provisions of this act; Provided, however, that all such persons so impressed into service shall receive the ordinary and usual compensation paid to other persons in the particular locality and for the class of service to which they are assigned.

In response to the request made by a committee representing Organized Agriculture and including the Grange, announcement has come from Washington of the appointment of an advisory committee representative of producers of farm products and livestock. John Grattan of Golden is the Colorado member of this committee. Idaho is represented by F. J. Hagenbarth of Spencer, the selections being made, however, not by states, but by regions. Other members are as follows:

E. S. Brigham, St. Albans, Vt.; Wm. F. Pratt, Batavia, N. Y.; C. J. Tyson, Floradale, Pa.; David R. Coker, Harteville, S. C.; Henry C. Stuart, Elk Garden, Va.; C. S. Barrett, Union City, Ga.; David P. Massie, Chillicothe, Ohio; Oliver Wilson, Peoria, Ill.; D. O. Mahoney, Viroqua, Wis.; Marion Sansom, Ft. Worth, Texas; N. H. Gentry, Sedalia, Mo.; Isaac Lincoln, Aberdeen, S. D.; J. N. Hagan, Bismarck, N. D.; W. G. Gordon, Humboldt, Tenn.; W. L. Brown, Kingman, Kans.; H. W. Jeffers, Plainsboro, N. J.; Eugene Funk, Bloomington, Ill.; Milo D. Campbell, Coldwater, Mich.; W. W. Harrah, Pendleton, Ore.; George C. Roeding, Fresno, Cal.; W. R. Dodson, Baton Rouge, La.; C. W. Hunt, Logan, Iowa.

The best brains of the Grange and of the country ought to be put at the task of solving the question. "How can we stop the flow of population to the cities?" The world is calling for bread. The cities are offering their white lights and entertainments and high wages and short hours. On every hand the appeal to the farmer is: "Increase your acreage! Raise more crops or the world will starve!" Has the farmer a monopoly on patriotism? Is he and his family alone to work long hours out of all the laborers in the whole United States?

Of course, he will do his best. He always has. His record is clear since Concord and Lexington.

But when the pinch of starvation comes to the cities, as come it must, if present conditions remain, the fault will lie in the cities and not on the farms.—Ohio Grange Monthly.

The Wheat Price Guaranty

To emphasize the certainty of a fair market for all the wheat farmers of the United States can grow this year, the Food administration desires that wide publicity be given the President's proclamation of February 21, guaranteeing wheat prices for 1918. Matters on which clear understanding is especially necessary are discussed in the following paragraphs:

The guaranteed price for wheat of the 1918 harvest makes no essential alteration in the present guarantee. It will be remembered that the present price was arrived at by an independent commission appointed by the President, upon which the farming community was represented by six members out of eleven. The new guaranteed price for No. 1 Northern spring wheat and its equivalent ranges from $2.00 per bushel for far-west interior points to $2.27 and $2.28 at the Atlantic seaboard.

This guaranteed price assures the farmer of a reasonable profit even if the war should end within a year and the large stores of grain in those sections of the world now cut off from transportation should again come into competition with his products. The guarantee applies to wheat harvested in the United States during 1918 and offered for sale before June 1, 1919, at any of the 25 specified markets.

The guaranteed price applies to No. 1 Northern Spring wheat and its equivalent. The equivalent wheats are: No. 1 hard winter, No. 1 red winter, No. 1 durum, No. 1 hard white. Prices for all other grades of wheat established under the . S. Grain Standards act are to be based on the guaranteed prices at the principal primary markets and bear just relation to them.

Following are the prices at the various primary markets:

Baltimore, Md.	$2.27
Charleston, S. C.	2.27
Chicago, Ill.	2.20
Duluth, Minn.	2.17
Ft. Worth, Texas	2.09
Galveston, Texas	2.20
Great Falls, Mont.	2.00
Kansas City, Mo.	2.15
Los Angeles, Cal.	2.10
Minneapolis, Minn.	2.17
New Orleans, La.	2.20
Newport News, Va.	2.27
New York, N. Y.	2.28
Oklahoma City, Okla.	2.05
Omaha, Neb.	2.15
Philadelphia, Pa.	2.27
Pocatello, Idaho	2.00
Portland, Ore.	2.05
Salt Lake City, Utah	2.00
San Francisco, Cal.	2.10
Savannah, Ga.	2.27
Seattle, Wash.	2.05
Spokane, Wash.	2.00
St. Louis, Mo.	2.18
Wichita, Kans.	2.08

Cites the Word of God

I would like to say just a word about lending to our neighbors. God's word says: "Lend, hoping never to receive again." We sometimes lend things that we never get back and things that we have to go after and find them broken. But have we any right to shut our bowels of compassion to our brother whom we are commanded to love as ourselves? The Lord says: "Him that will borrow of you turn not thou away." Since we are here only for a short time we ought to bear these things for His name's sake. We are not here to fulfill the lusts of the flesh, but to prepare ourselves and our neighbors for the great day of God. It is our duty to study the sins of the times that we may not be overtaken unprepared. "Woe, woe to the inhabiters of the earth that do not live for God but pass on to judgment and are punished. Awake unto righteousness and sin not for we are to stand spotless before Him." Again, I say let us be wide awake for the end is near.—A. Enockson, Keota, Colo.

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A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.

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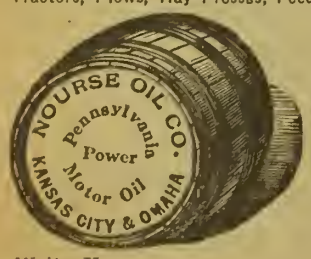

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Work in Joint Effort the Soil of the U. S. and Canada—Co-operative Farming in Man Power Necessary to Win the Battle for Liberty

The Food Controllers of United States and Canada are asking for greater food production. Scarcely 100,000,000 bushels of wheat can be sent to the allies overseas before the crop harvest. Upon the efforts of the United States and Canada rest the burden of supply.

Every Available Tillable Acre Must Contribute; Every Available Farmer and Farm Hand Must Assist

Western Canada has an enormous acreage to be seeded but man power is short, and an appeal to the United States allies is for more men for seeding operations.

Canada's Wheat Production Last Year Was 225,000,000 Bushels; the Demand From Canada Alone, for 1918, is 400,000,000 Bushels

To secure this she must have assistance. She has the land, but needs the men. The Government of the United States wants every man who can effectively help to do farm work this year. It wants the land in the United States developed first, of course; but it also wants to help Canada. Whenever we find a man we can spare to Canada's fields after ours are supplied, we want to direct him there. Apply to our Employment Service, and we will tell you where you can best serve the combined interests.

Western Canada's Help Will Be Required Not Later Than May 5th. Wages to Competent Help, $50 a Month and Up, Board and Lodging.

Those who respond to this appeal will get a warm welcome, good wages, good board, and find comfortable homes. They will get a rate of one cent a mile from Canadian boundary points to destination and return. For particulars as to routes and places where employment may be had, apply to

U. S. Employment Service, Department of Labor
Denver, Colo., or Helena, Mont.

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A Rural School Conference

A. W. Henderson

Problems of the rural school and the possibilities of improving many of the conditions were discussed fully in Colorado Springs recently when 90 directors from the county school sections of El Paso county were guests of the Chamber of Commerce. The Agricultural and educational committees of the chamber, co-operating with County Superintendent Mrs. Inez Johnson Lewis, were instrumental in arranging a day for the rural directors in Colorado Springs, which attracted a large percentage of the active men and women interested in school affairs.

The school directors were invited to Colorado Springs in a spirit of co-operation on the part of the Colorado Springs school officials and Chamber of Commerce workers in order to discuss frankly with the rural educational leaders questions, by the solution of which both parties would be benefited, and for an exchange of ideas.

County Superintendent, Inez Johnson Lewis, hit the keynote of the meeting when she declared that it always had been a tragedy to her that the city and country people had failed to co-operate as they should on questions vitally affecting the interests of all concerned. She declared that the rural school, to fulfill its mission, must not be merely a place for the instruction of boys and girls in the "Three R's," but a community center for the social and intellectual life of the community. Roscoe C. Hill, superintendent of the Colorado Springs schools, declared that in his opinion the position of county superintendent of schools should be taken out of politics entirely. He declared that a county superintendent hardly becomes acquainted with conditions in her locality in two years time.

The big problem facing the rural schools today, in the opinion of T. J. Hazlebaker, representing the far northeastern section of El Paso county, is that of securing attendance.

"Our boys and even the girls are necessary to the farmers for spring and fall farm work," he said. "Because of this many can go to school but a few months. The increasing of the acreage to provide more food, the taking of many men for the army and the shortage of farm labor has thrown the burden upon the boys and girls who should be in school."

Mr. Hazlebaker advocated a compulsory attendance law for the rural schools and also laid stress on a more equitable distribution of corporation taxes. He told of the difficulties in many districts where the taxable property is so small that the school house is no more than a dugout and the teacher is, of necessity, poorly paid.

Along this same subject J. W. Manning of Amo declared that there should be additional taxes to provide transportation for children residing a long distance from the school houses and that modern buildings and up-to-date equipment must come before the rural schools can get the best results.

Mrs. Susie Tanner urged that the teachers in the rural schools be social leaders as well as instructors and that there be more made of the social side of school life for the entire community as well as the school children themselves.

"One of the disadvantages of the rural school," Mrs. Tanner said, "is that the city schools insist that the normal school graduate get her experience in the country and as soon as she has perfected herself she is attracted back to the city by higher salaries."

Dr. W. K. Argo, superintendent of the Colorado School for the Deaf and Blind, and chairman of the educational committee of the Chamber of Commerce, advocated better pay for teachers in order that they can have the opportunity for study and better training. He urged that the directors allow them to attend institute and state association meetings on the basis of becoming better teachers by such experience.

"The rural schools have a much greater opportunity for industrial and manual training than the city schools," Dr. Argo declared. "The farm boy can be taught the use of tools, of machinery, special studies about farming and all of these can be applied at his home. To many of the city pupils this opportunity is denied."

Asa T. Jones, chairman of the agricultural committee of the Chamber of Commerce, urged warm school luncheans, or more especially warm dishes for the school lunches. The majority of the children take their lunches to school, he stated, and the boards could get real results by providing some warm dish, such as soup. This plan is now being carried out in several of the schools of El Paso county and is being pushed by the Home Demonstration Agent, Miss Mary Collopy.

Practical Hints for Preventing Waste on Farm

(Continued from page 5)

money saving and helpful trade that can be home talented. It is closely related to black-smithing as the two often go hand in hand. Ordinary ability at it will make a kitchen table, kitchen cabinet, cupboard, and so on. I know a farmer who made his own butter-worker and it is simple enough. He also made his own sleds. There are three ways of making or procuring runners; first, the natural bent timber; second, bending the green timber and letting it dry till it will retain its shape; third, steaming the timber and bending. While a little more difficult to make sleds, yet they are well within the range of home product carpentry.

There is no excuse for the man who buys all his machine, wagon and sled tongues. Except in rare instances, home carpentry can accomplish this. A reach pole, single and double trees, wagon box and most all wagon repairs can be taken care of by material waste or otherwise. A screen door and screen frame are simple manual training exercises. A bee-hive also.

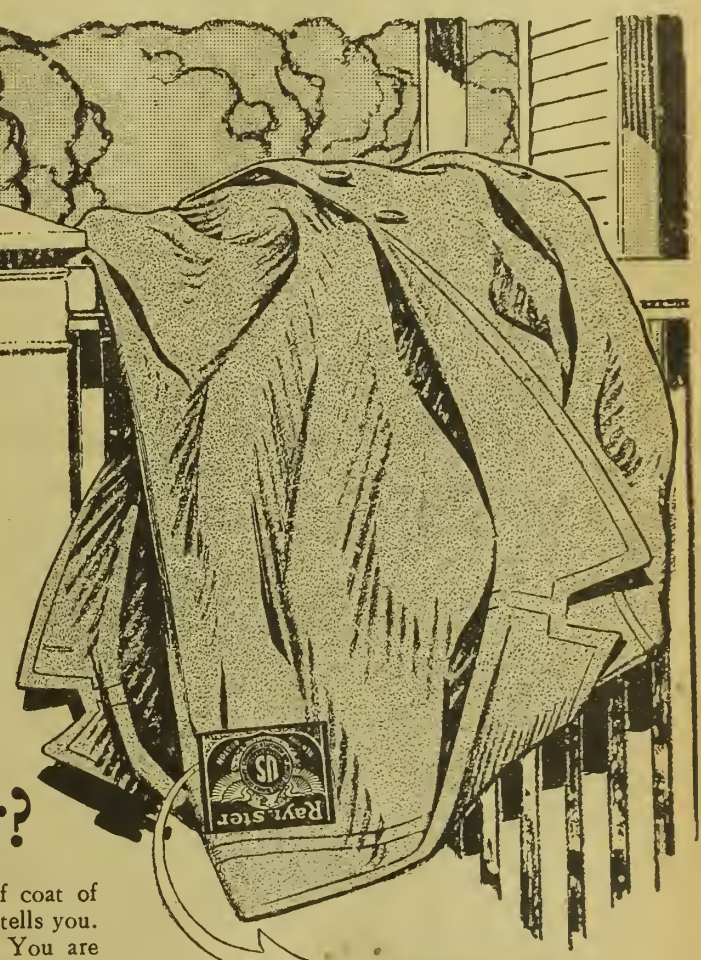
In leather work and leather repairing there are limitless examples of home work. It does not take a regular shoemaker or shoe repairer to half-sole a pair of work shoes. With ordinary intelligence and a little practice one can do it himself. It costs from sixty-five cents to one dollar to half-sole a pair of shoes. A member of the family who does this work certainly saves a neat sum each year in shoe repair bills. Harness mending and building up parts of harness, or re-built harness, are home talent leather work. One can learn to tan hides to use for shoes, harness and all leather work. Halters can be made from scrap harness or leather. There are usually plenty of old rings for it; and even if rings are purchased they are a small item. The scrap leather used is usually better than halter leather. About a dollar a halter is saved. A harness lathe is also home manufactured.

Anybody that buys poultry fountains, self feeders, leg bands, glass eggs, etc.; certainly has not learned the advantage of home product work. A simple fountain is a pan with inverted can full of water. Leg bands are strips cut from tin and number stamped on them. An egg that has the contents removed thru small hole and filled with plaster-paris is a simple substitute for a glass egg. Old white door knobs make dandy hen eceivers.

The kitchen has a limitless area for home work in repairing and manufacturing. Home canning of fruit, vegetables and meat is successfully done by the ambitious few, so why not more be ambitious and do it? It is cheaper by far and the canned product at home has a superior flavor and quality. There are various firms that put out graham flour, grist or wholewheat grinding mills. Flour is being made on the farm and the quality and economy of same is being attested in every community. Home wheat is turned into whole wheat flour, which when baked I have found superior in taste and nutrition to any other.

The kitchen is a wonderful place to show your adaptness with the tinner's shears. There is much simple soldering to do. Pails can be repaired to last twice their ordinary age. A toaster or camp meat roaster can be imitated in an ordinary wire toaster. Take wire and construct it so that it can go in the fire-box door of the range.

(Turn to page 17)



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You can find Raynsters in good stores throughout the country. If you write for it we'll gladly send you a Style Book showing all the Raynster models.

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

The cry comes from every part of the country: "Arouse yourselves, realize that democracy is fighting against death." Women, in the cause of honor and freedom, we will awaken to the call of patriotism, self denial and service such as we have never known. We must produce more and live on less. Have we carefully made our plans for the coming summer's food conservation—the canning, preserving and drying? If so, we shall not suffer as some of us did last year, because of being rushed into the business unprepared with a consequent loss of time, energy and satisfactory results.

What some of us need is not so much new recipes for the making and use of Victory breads, as to realize that we have a great part to perform in this war and that we have no apologies to offer for being absorbed by this one idea of our duty to humanity and to our children. The only way we can escape from the dreadful burden is to do our part in making victory certain and speedy.

Save the waste; control the taste.
Eat cornbread and rye.
Meatless days, wheatless days.
Eat less cream and pie.
For the Allies' sake, cut out the cake.
Save food and win—or die.
Keep fighters' fit—this is your bit.
That is the reason why.—Dallas News.

Wheat Saving

It is encouraging to receive the favorable comments on the breads made from wheat substitutes and some of our readers say that they doubt if they will ever again care so much for pure wheat bread. Some, however, still complain of the price of wheat substitutes. This is not always a justifiable complaint, because if flour substitutes are bought in the same form and quantity as the wheat they will average about the same in price. Buckwheat and corn flour are usually the same as wheat—or should be—while barley, rye and oat flour are only a trifle more a pound. Rice and potato flour are made only in small quantities and put up in cartons, which increases the price. But these last two need not be used unless we are willing to pay more to have the bread white. By using the wheat substitute we are only going back to the healthful food that our grandparents used.

Cottage Cheese Demonstrations

The Extension department of Colorado Agricultural college has been able to put in the field a special demonstrator to show the uses of skim milk in making of cottage cheese in its various forms and for other household purposes. This work has been made possible thru the federal food emergency fund. Mrs. Roy G. Coffin, wife of Captain Coffin of Battery A in the United States service, has been appointed and is now in Washington preparing for the demonstration work which will be carried on in all the rural districts of the state. She will give demonstrations before rural clubs and in homes, showing how this by-product of the farm can not only be made valuable for use in the home, but for purposes of outside sale. Methods of attractive packing will be demonstrated, as well as the making of cheese.

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Martha Washington Comfort Shoes

Beware of Imitations—
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Milwaukee, Wis.

MILWAUKEE Mayer MADE FOR CUSTOM MADE

HONORBILT

37 DIFFERENT STYLES

Oatmeal Bread

2 cups boiling water
1 cup rolled oats
½ cup molasses
½ teaspoon salt
½ yeast cake (or liquid yeast)
½ cup warm water

Five cups white flour, or substitutes as follows: 2 cups white flour and 3 cups of rye, barley, or two of the dark flours may be mixed, giving the bread a different taste.

Directions: Pour boiling water over oats, cover and let stand one hour. Add molasses, yeast, salt and flour. Beat well and let the dough rise. Beat again and put into greased bread tins. (If one wishes to knead as white bread more flour will have to be used.)

Let rise one hour. Bake in slow oven one hour.—Mrs. C. A. Lory, Ft. Collins, Colo.

Barley Biscuits

1 cup white flour
2 cups barley flour
6 level teaspoons baking powder
¾ teaspoon salt
4 tablespoons fat
Water for soft dough.

Potato Bread

Sponge method: To make four one-pound loaves.,

3 lbs. boiled and peeled potatoes
2¼ lbs. good bread flour
3 tablespoons sugar
1½ tablespoons salt
1 cake compressed yeast
4 tablespoons water

Boil, peel and mash the potatoes. In the evening take one and one-half pounds or two and a half solidly packed half-pint cupfuls of the cool, mashed potato; add to it the salt, 4 ounces of flour (one scant half-pint cupful), and the yeast rubbed smooth with the water, reserving one spoonful to rinse the cup. Mix into a sponge and let stand all night. In the morning add the remainder of the potato, the sugar and the rest of the flour. Knead thoroly until a smooth and very stiff dough is formed. After working the dough let it rise until it doubles in bulk. Then divide into four equal parts and mold into loaves. Let rise until they have doubled in volume and bake in a steady heat for forty-five minutes.

Combination Biscuits

1 cup white flour
½ cup cornmeal
½ cup Graham flour
3 teaspoons baking powder
½ teaspoon salt
3 tablespoons fat.

Cold water for soft dough.—Miss Richards, Ft. Collins.

Steamed Brown Bread

1 pt. sour milk
1 cup Graham flour
1 cup cornmeal
1 cup rye flour (or white)
1 cup molasses (New Orleans or sorghum)
1 rounded teaspoon soda
Pinch of salt

Steam two and one-half hours. Dry in oven 15 minutes.

Cornmeal Cookies

¼ cup fat
½ cup corn syrup
½ cup molasses
1 egg
1 teaspoon salt
6 tablespoons sour milk
2 cups white cornmeal
1 teaspoon soda
1 cup flour
1 teaspoon cinnamon

Combine melted fat, molasses, beaten egg and sour milk. Sift together cornmeal, soda, flour and stir into the liquid mixture. Drop from teaspoon on a greased pan and bake 15 minutes in a moderate oven. One cup chopped raisins or nuts improves these cakes.

Scotch Oat Crackers

2½ cups rolled oats
¼ cup milk
¼ cup molasses
1½ tablespoons fat
¼ teaspoon soda
1 teaspoon salt

Grind or crush oats. Mix, cut in squares and bake.

Buckwheat Spice Cakes

¾ cup sugar
3 tablespoons fat
1 egg
1 cup sweet milk
1 cup buckwheat flour
1 teaspoon baking powder
½ teaspoon salt
1 teaspoon cinnamon
¼ teaspoon cloves
1 teaspoon vanilla

Mix like an ordinary cake. Bake in muffin tins or loaf in a modcrate oven.

Note—Most of the above recipes were tried out in the home of Mrs. C. A. Lory, wife of President Lory of the Agricultural College of Colorado, and pronounced excellent.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo

2409—An "Easy-to-Make" Apron. Cut in sizes Small, Medium, Large and Extra Large. Size medium requires 3¾ yards 36-inch material. This model is nice for seersucker, gingham, lawn, percale, drill and jean. The body portion is finished with strap ends that are crossed over the back and fastened to the front at the shoulders. In this design, all waste of material is avoided.

2389—Smart Gown. Cut in sizes 34, 36, 38, 40, 42, 44, and 46 inches bust measure. Requires 6¼ yards 44-inch material for size 38. Taffeta, foulard, serge, voile, gabardine and linen would be nice for this model. The skirt has straight, narrow lines, but the plaits over the back and sides, lend added fulness. Braid, embroidery or fancy buttons may serve as trimming.

2090. Cut in sizes 34, 36, 38, 40, 42, 44, and 46 inches bust measure. Requires 3 yards 36-inch material for 38-inch size. This smart little shirtwaist is lovely for the new, soft satins, crepes and pretty printed voiles. The collar is an attractive feature. The sleeve, in wrist length, has a deep cuff, on which is placed a neat trimming.

2397. Cut in sizes 2, 4, 6, 8, and 10 years. Requires 3⅛ yards of 36-inch material for 6-year size. This design is cut with the front in yoke panel effect. The skirt portions are full and gathered. The sleeve may be in wrist of elbow length. The style is good for gabardine, batiste, voile, crepe, albatross, linen, pique and other wash fabrics.

CATALOGUE NOTICE

Send 10c in silver or stamps for our Up-to-Date SPRING AND SUMMER, 1918 CATALOGUE, containing 550 designs of Ladies', Misses' and Children's Patterns, a CONCISE AND COMPREHENSIVE ARTICLE OF DRESSMAKING, ALSO SOME POINTS FOR THE NEEDLE (illustrating 30 of the various, simple stitches) all valuable hints to the home dressmaker.

How to Make Scrapple

Scrapple—a meat and cornmeal mush greatly relished by many—puts to good use such meat as hog heads, hearts and livers, and is a good use for cornmeal also. The United States Department of Agriculture gives the following directions for preparing this dish, excellent for breakfast, luncheon or dinner: Spices, such as marjoran,

Ingredients

Whole hog heads	10 pounds
Hog livers and hearts	2½ pounds
(A small quantity of beef can be used also if desired.)	
Cornmeal (yellow or mixed)	6 pounds
Buckwheat or rye flour	½ pound
sage, thyme and pepper in proportion as desired, or omit those not desired	3 ounces
Salt	½ pound
Liquid in which meat is boiled; use a quantity equal to the total weight of the combined solids.	

The proportion of the various ingredients may be varied to suit individual taste.

Clean the hog heads thoroly, removing the eyes and ear tubes. Split the head lengthwise and remove the teeth and the soft bones in and near the nasal cavities. Place the hog heads and other meat into a large kettle or caldron with a liberal quantity of water and cook until the meat falls off the bones. Remove all of the meat and soft tissues from the bones and chop the meat by passing it thru a meat grinder. Strain the cooking liquid to remove any small pieces of bone. Place the liquid back into the kettle. Heat to boiling point, at which time slowly add the meal and flour, and stir constantly to prevent the meal from forming into lumps and also to avoid scorching. Boil and stir until the mass becomes thick, and then add the salt, spices and chopped meat. Boil ten minutes and while still hot pour the product into deep wet molds—bread pans will do. Pour two to four large spoonfuls of melted lard over the product in the pans As soon as the product has cooled it is ready for use.

The usual way of serving scrapple is to cut it into slices about one-half inch thick, dust the slices with flour or cracker dust, or dry cornmeal, and fry until the outside is somewhat crisp. Serve while hot. Fried apples are good with fried scrapple.

Helpful Correspondence

We are so pleased with the following letter that we feel sure the readers of Western Farm Life would like to share it with us, so we publish it as given:

"I am sending some of my 'cheap' cake recipes and hope others will like them.

Mock Angel Food

Mix together 1 cup sweet milk and 1 cup sugar. Sift together 5 times 1 cup flour and 2 level teaspoons baking powder and add to the milk and sugar. Beat to a stiff froth the whites of 3 eggs with a pinch of salt and add to mixture. Flavor with a mixture of equal parts of banana, lemon and vanilla flavoring and bake in moderate oven.

Raisin Cake

One cup sugar, 1 teaspoon soda and enough cinnamon to color the mixture good. Add 1 cup sour milk and flour to make as any cake dough. Add 1 cup floured seedless raisin and ½ cup smoking hot lard or butter.

Chocolate Cake

Two cups brown sugar, ½ cup butter creamed together. Stir 2 tablespoons of cocoa or ½ cup grated cholocate in ½ cup coffee boiling hot, 1 egg, ½ cup sour milk with 1 teaspoon soda stirred in, 2¾ cups flour, vanilla. Just for every day I leave out the raisins and you can add less shortening or more liquid and have a good cake left. I double the recipes for harvesters and threshers.

I have a burner oil range, a bread mixer and a glass churn which I do not think I could do without. Don't be afraid of the bread mixers, for they certainly are fine. I have as good bread as can be made and never touch it only to shape into loaves."—Mrs. Leia Butler, Roy, N. M., R. No. 1.

Kafir Brown Bread

2 cups kafir
1 teaspoon soda
1 cup Sorghum molasses
1 egg
1 cup wheat flour
½ teaspoon salt
1½ cups sour milk
½ cup, raisins.

Steam two and one-half hours in a tin coffee can or baking powder can. As the mixture raises fill tins only half full.

Bran Loaf

2 cups sour milk
½ cup molasses
⅓ cup sugar
3 cups bran
1½ cups cornmeal
1 cup white flour
1 egg
3 tablespoons shortening
1 teaspoon soda
1 teaspoon salt

Put in greased cake pan and let rise 20 minutes. Bake in moderate oven 1 hour. —A Good Housekeeper, Boise, Idaho.

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Uncle Sam says, "Hens must help in the war." Now, Biddy didn't ise her chicks to feed a soldier, but hen duty calls, she's game. What n she do? Statistics gleaned from nsus reports, departmental and mi-official estimates show what she is done. From these it is easy to educe what she is capable of doing the laying line this year.

She is not near maximum production when she turns out 2,000,000,000 ozen eggs a year, equivalent to that any pounds of meat. What would at much meat look like on the hoof? nagine 3,000,000 head of cattle, and ou can come near it. That may be orth crowing over, but Biddy does ot crow. Neither does she rest. Inead, she devotes time to production poultry meat weighing 2,500,000,000 ounds, equivalent to 12,500,000 squealg pigs dressing 200 pounds each.

The civil population can eat this normous mass of food and save beef nd pork to nourish the fighting men go over the top. Meat, not talk, ill help win the war. The American agle may scream at the front, but the merican hen adding to the meat supy is capable of doing a big bit in inning the fight. Why not encourge her?—Exchange.

As to Goose Raising

What do you think of goose raising as a eans of helping increase the food supply. I ve a fine place for them, large lake, full of all nds of water bugs and plenty of grass for sture in summer. But what I want to know : Will they do well where snow lays on the ound a good part of the winter, and if my ed would be suitable. We raise alfalfa hay d grains, but can't get a thresher up here, our hens have to scratch the grain out for emselves. Could geese do this? Also, would as take the place of corn? I sent for Bul-in No. 76 and it calls for corn. Would small tatoes cooked up be good for them? I always ve lots of them. How many geese would you vise one to get to start with?—Mrs. B. E. R., affee County, Colo.

Just how profitable goose raising ould be when geese need to be kept and fed a large part of the year ould depend upon three factors: The antity of feed consumed, the cost of ed and the price you can get for geese the market. Geese are naturally azers, and on pasture require no ecial care. During the winter months open shed for exercise would be out all they would require. Peas do t take the place of corn, as they are cher in protein, but with potatoes ould furnish a very good ration. Alfa leaves, scalded or dry, with bran ould give them a very good, bulky ed, also rich in protein, and also ought furnish a comparatively cheap and od ration. Geese will not thresh out e grain as the chickens do, but if lowed to run with the chickens would robably find more or less of the grain the litter. It seems to me that our ultrymen are missing a very good ortunity for getting cheap feed for all asses of poultry by not making more se of cull potatoes where they can be d cheap. I believe you could make ose raising profitable even under your nditions, especially when prices are gh, but of course you would have to t good prices for the geese. My sugstion would be that you get a flock not over a half dozen to begin with; at you hatch your goslings early and t them on the market as early in the as possible, and in winter keep only hat you need for breeders the following ason. As to the breed, the Toulouse as been found profitable and more easy get in Colorado than other breeds.

TELLS WHY CHICKS DIE

E. J. Reefer, the poultry expert, 948 eefer Bldg., Kansas City, Mo., is givg away free a valuable book entitled, White Diarrhoea and How to Cure It." his book contains scientific facts on hite diarrhoea and tells how to prere a simple home solution that cures is terrible disease over night and acually raises 98 per cent of every hatch. ll poultry raisers should certainly rite Mr. Reefer for one of these valuble FREE books.

Will Save Your Chicks

Any reader of this paper who will write P. J ly, the Poultryman, at 70 N. 2nd st., neapolis, Minn., will receive a free copy of new booklet, "White Diarrhoea in Baby ks." It tells how to prevent, remedy and the whole hatch. It's free and this paper you to write for it at once.

Care of Chicks

The wind is bound to be cold for several weeks yet, so do not expose the chicks unnecessarily; keep the hen confined until they are several weeks old. Incubator chicks should be gotten on to the ground as soon as possible, but care should be taken to keep them from straying away from the heat. It takes considerable thought and attention to keep kept-in chicks happy, but unless they are made comfortable and kept busy, harm is pretty sure to follow.

We have an abundance of last year lawn clippings for the brooder house. After sprinkling clean sand over the floor, we scatter dry lawn clippings deeply and in this litter all broken grain is fed. As long as any feed is found in this litter, no more is given; in this way they are made to work for a living. It is difficult to overfeed growing chicks that are kept busy, and equally difficult to keep chicks healthy without exercise.

Cleanliness is next to godliness in the chicken business. After chicks are two weeks old the litter should be renewed often. Fresh earth costs nothing and should be used freely on the floor of brooder coops and brooder house.

Prevention is better than cure; plenty of heat and sour milk will do more to prevent bowel troubles in small chicks than all the medicine will cure. Lice will sap the life out of chicks if not controlled. -- dab of vasaline or lard on the head of hen hatched chicks will usually do the business. First see that the setting hen is clean. A good dusting place will usually suffice to keep her free of lice.

Clean feed troughs, water dishes, milk dishes are essential. Filth of all kinds must be eliminated or weak or dead chicks will be the result.

100 Hens For Each Farm

The government is boosting for 100 hens on each farm and 100 eggs from each hen. Neither of these results can be accomplished this year unless our people get busy, right now. We have never experienced a better season for hatching chicks than the present one, but we very much fear history is repeating itself and too many are depending on the hen for hatching their chicks. The old hen can lay more eggs and hatch more of them than an incubator, but she is not at all obliging.

We are not at all in sympathy with some of the advice being sowed broadcast to the effect that May and June are timely months for hatching, especially for the larger breeds. If we let April go by, the egg basket will probably go empty during the time of highest prices next fall and winter.

Chickens Probably Poisoned

On last Wednesday our chickens were just as healthy as could be. At noon the same day I noticed one hen that seemed to get stiff in her thighs and would step high when walking and would sit down quick and place her bill on the ground. A clear fluid or slobber would run out of her mouth. Her droppings were almost clear, with white mixed thru it, and came almost continually. The rest of the flock was seemingly in fine health. In five hours there were seven hens dead; they all went the same way. We only fed oats and plenty of range and a lot of sweet milk. Some think they ate salt where I salted the cows. Would chickens eat stock salt? Another man said it acted like meningitis. I had twelve nice hens and a rooster a weeg ago and have one hen left. What is the matter with them? Do you think it is poison?—R. E. F., New Mexico.

Your fowls have evidently been poisoned. No poultry disease with which I am familiar would be fatal in so short a time. If we had one of the fowls for examination, or if you could send one to the Agricultural college at State College, New Mexico, to the Veterinary Department, very likely the form of poisoning could be discovered. While too much salt is considered to he fatal, there is no likelihood of your fowls deliberately eating too much rock salt. I have known of cases where fowls have been poisoned by eating canned goods, but of course it is impossible to determine the cause of the death of your fowls without a careful examination.

Suggestions as to Feeding

Please tell me how to proportion my feed. I have wheat, corn, millet, and beef scrap, but nothing but sand for grit. Would glass be all right beat up? I have 30 hens and two cockerels, but I am getting only two or three eggs a day. My hens are one year old.—T. B., New Mexico.

The variety of feeds you mention as heing given your fowls should bring better results than you are getting. We would suggest that you feed 35 per cent wheat, 35 per cent corn, 20 per cent millet and 10 per cent heef scrap, hut in addition something in the way of root crops, alfalfa or similar bulky feeds should be fed. If your hens have range, they can probably get vegetahle matter enough, and range also will supply them with plenty of grit. I should prefer feeding the heef scrap in a mash, but if you are not accustomed to feeding a mash, give it to them clear. Glass and crockery ware, broken up, are good as grit, hut we have not been furnishing our fowls with grit or oyster shell for a number of years, as they are on free range most of the time. At the present time you should be setting a 50 per cent egg yield. I would suggest that you examine the roosting quarters and nests for mites and see that the fowls are not lousy. With clean surroundings, the feed you have, and exercise, your hens ought to be getting busy.

Practical Hints for Preventing Waste on Farm

(Continued from page 15)

Meat cooked on the coals has a natural flavor and is most easily digested. A cookie cutter is the cover of a can. A cheese grater is made by punching holes in a piece of tin and forming an arch over a narrow flat piece of wood. A paring knife is made by grinding down an old kitchen knife. A can opener is made of old knife. There are many other kitchen tools easily made.

A farm dump cart can be manufactured from the scrap heap. Other kinds of wagons and carts can be made also. There are usually all sorts of wheels in the junk pile. Two wheel and four-wheel trucks which are very useful on the farm can be duplicated from the "iron graveyard."

A water-bag is nothing but good quality linen or good quality closely woven duck or canvas, that one can satisfactorily make from tent or ordinary canvas. Sew together and attach spout. A whip better than a dollar whip can be made from a willow or any other strong switch. Wind strong string or twine around it. Glue, paint and put a piece of rawhide at the end. A potato picking wire basket can be duplicated on the farm by waste wire of large and small guage, and solder.

As an example of the waste of brain matter, a farmer was going to employ a man all winter at twenty dollars a month, to keep him supplied with fuel in the form of sawed and chopped wood and do odd jobs, when he could have bought thirty dollars worth of coal, or the equivalent of a month and a half wages, to buy enough coal for all year. There are too many such examples of the lack or waste of brain material.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24TH, 1912, OF "WESTERN FARM LIFE," PUBLISHED SEMI-MONTHLY AT DENVER, COLO.—FOR APRIL 1, 1918.

State of Colorado, County of Denver. Before me, a notary public in and for the state and county aforesaid, personally appeared W. S. Edmiston, who, having been duly sworn according to law, deposes and says that he is the business manager of the Western Farm Life, and that the following is to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are:

Name of Publisher—The Farm Life Publishing Co., Denver, Colo.
Editor—A. T. Steinel, Denver, Colo.
Managing Editor—A. T. Steinel, Denver, Colo.
Business Manager—W. S. Edmiston, Denver, Colo.

2. That the owners are:
W. S. Edmiston, Denver, Colo.
A. T. Steinel, Denver, Colo.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities, are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company, but also in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustee, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest, direct or indirect, in the said stock, bonds or other securities than as so stated by him.

W. S. EDMISTON,
Business Manager.

Sworn to and subscribed before me this 21st day of March, 1918.

EDMONTE O. HAFFNER,
Notary Public.
(My commission expires March 14, 1920.)

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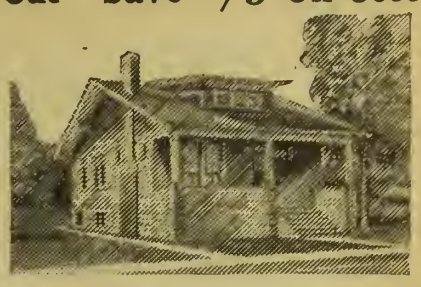

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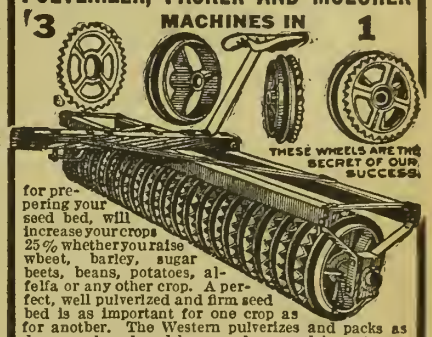

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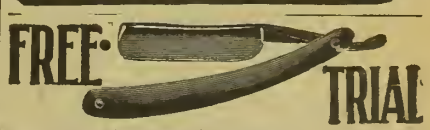

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ROSE COMB REDS—THREE YARDS. NEbraska State Show prize winners; mating list free. Grace L. Andrews, Miller, Neb.

FREE—MATING LIST READY. ISRAEL'S Quality Plus Single Comb Rhode Island Reds. Get it. Lou R. Israel, Osceola, Nebr.

HARRISON'S NON-SITTING SINGLE COMB Reds. (250 egg strain). Mating list for customers. Robert Harrison, Lincoln, Nebr.

LOWER'S POULTRY FARM, ARVADA, COLO., is the oldest and largest breder of reliable Single Comb Reds in the West. Send for circular.

EGGS FOR HATCHING—ROSE COMB REDS exclusively; prize-winning, heavy laying strain. Write for mating list. E. A. Miller, Alma, Nebr.

ROSE COMB REDS, 100 EGGS, $6.00 AND $8.00. S. C. Brown Leghorns. 100 eggs, $6.00 and $7.00. L. D. Speenburg, Belleville, Kans.

ROSE COMB R. I. REDS. DARK BRILLIANT. Baby chicks. Hatching eggs. Satisfaction guaranteed. F. B. Morger, Route 1, Fowler, Colo.

THOROUGHBRED ROSE COMB REDS. BEAN strain. Satisfaction guaranteed. Eggs $1.50 per 15; $8.00 per 100. Mrs. Monie Wittsell, Route No. 1, Erie, Kan.

SEVEN GRAND PENS ROSE COMB REDS, headed by roosters costing $15.00 to $50.00. 15 eggs $3.00; 30 eggs $5.00; 50 eggs $8.00. Special utility eggs $7.50 per 100. Baby chicks. Catalog. W. R. Huston, Americus, Kan.

BEAN STRAIN R. C. REDS, BRED FOR EGGS and color. Eggs, $3, $5 per 15; chicks, 25c. Mrs. L. G. Lambert, Anderson, Mo.

CORNISH

QUALITY DARK CORNISH—MATING LIST. R. H. Jandebueur, Alma, Neb.

DARK CORNISH FOR SALE—MATED TRIOS, pens and single birds; big winners at all Denver shows. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

ANDALUSIANS

CRITTENDEN'S FAMOUS BLUE ANDALUsians, 15 eggs, $1.50; $8.00 a hundred, postpaid. S. D. Crittenden, Mansfield, Ark.

MINORCAS

SINGLE COMB BLACK MINORCAS. I HAVE a fine lot of cockerels for sale. Also year-old hens for mating, eggs and baby chicks. Reasonable. Write for prices. H. R. Suydam, 4500 Bryant St., Denver, Colo.

SUSSEX

RED SUSSEX—LIMITED NUMBER EGGS AND few females for sale. Won at Chicago Coliseum in 1916 and 1917. Rees Evans, Box 29, Ardmore, Okla.

BRAHMAS

THOROBRED LIGHT BRAHMAS. SETTINGS for sale. E. Grosser, 2240 Perry St., Denver.

LANGSHANS

MADISON SQUARE AND CHICAGO PRIZEwinning Langshans. Eggs, $6.00 per 100 up. John Lovette, Mullinville, Kans.

WHITE LANGSHAN EGGS FOR SALE FROM prize winning birds at Nebraska State Show. Eddie Swanson, Funk, Neb.

DUCKS

ROUEN DUCK EGGS, $1.50 PER SETTING. James Cassell, Fremont, Neb.

RUNNER DUCK EGGS, $1.00 PER SETTING. Undefeated; best. Ora Dubbs, Douglas Kan.

FAWN AND WHITE INDIAN RUNNER DUCK eggs $1.00 per 13. $3.00 per 50. Mrs. Baker, Box 21, Arvada, Colo.

ANCONAS

ANCONA EGGS $1.00 AND $2.00 PER SETting; $6.00 per 100. Exclusive Ancona farm. Mrs. D. S. Davis, Littleton, Colo.

PURE SHEPPARD S. C. ANCONAS, MADISON winner and Queen Bess stock. Eggs, choice, $8.00 and $10.00 per setting. Utility, $8.00 per hundred. Chicks 25 and 80c. Order early. Lottie De Forest, Peabody, Kans.

MY ANCONA DOPE TELLS WHY I QUIT ALL other breeds. Ancona breeders got eggs all winter. Did you? Why keep loafers? Breed Anconas. 16 eggs for $2.00; 100 eggs for $8.00, prepaid. Page's Poultry Farm, Salina, Kans.

SEVERAL VARIETIES

S. C. REDS, WYMORE AND HICKMAN WInners. Stanley Kaura, Wymore, Nebr.

TWENTY LEADING VARIETIES OF POULTRY, stock and eggs. Royal Poultry Yards, Coffeyville, Kan.

BUFF ORPINGTON, PARTRIDGE ROCKS, Bourbon Turkey, and Toulouse Geese. Eggs. Mrs Frank Neel, Beverly, Kans.

EGGS, BLUE ANDALUSIANS, BLUE ORpingtons, Buff Leghorns, Buff Ducks, Bourbon Red Turkeys. Circular, John A. Huber, La Crosse, Kans.

EGGS FROM SELECTED PENS OF ROSE COMB Reds and Barred Rocks, $2.00 per 15. Choice farm range Barred Rocks, $5.00 per 100. Mrs. Otho Farmer, Farnum, Neb.

WELL-BRED, EXTRA LARGE, ROUEN DUCK eggs. $2.00 per 12. Good layer, big boned White Wyandotte eggs. $8.00 per 100. Robt. Fulliton, Austin, Neb.

PARTRIDGE WYANDOTTE EGGS. $2.00 per 15; $10.00 per 100. Silver Campines and Fawn and White Ducks. $2.00 per 15. Oscar Huston, La Junta, Colo.

KANSAS LARGEST POULTRY FARM. HATCHing eggs, baby chicks. Free egg circular. Write today for complete list twenty best varieties. Modlin's Poultry Farm, Topeka, Kans.

FOR SALE, EGGS—EGGS FROM ALL KINDS of purebred poultry; three kinds of geese, seven kinds of ducks, pearl and white guineas, bantams, fancy pigeons, rabbits, guinea pigs, canaries. Write wants. D. L. Bruen, Platte Center, Neb.

ALL LEADING BREEDS, EGGS AND STOCK. Bronze and Bourbon Toms, Barred Rock, Rhode Island Red, S. C. White and Brown Leghorn cockerels, Guineas, and Geese. Will sett or trade for runner ducks. Emma Ahlstedt, Roxbury, Kan.

R. C. REDS—$1, $1.50 SETTINGS; $6.50 PER 100. Fertile, Hoganized. Prize stock S. C. Red chicks, 25c and 35c each. Thorobred Campines—4 pullets, 2 hens, cock, $16. A. Stevens, 24th St. School, Denver, Colo.

WILL SEND POSTPAID THE FOLLOWING varieties of purebred eggs for hatching at $6.00 per 100, all one kind or assorted to suit, $2.00 per 30; 80 per cent fertility guaranteed. Barred Rock, White Rock, White Wyandotte, White Orpington, Buff Orpington, Rose Comb Rhode Island Red, Single Comb Rhode Island Red, White Leghorn, Brown Leghorn, Buff Leghorn. George Cloon, Le Loup, Kans.

BABY CHICKS

SINGLE COMB WHITE LEGHORN BABY chicks, 12½ cents each. Mrs. Anna Hege, Sedgwick, Kans.

BABY CHICKS—YOU BUY THE BEST, GUARanteed alive, at Colwell's Hatchery, Smith Center, Kan. Shipped anywhere, 12 cents.

BUFF LEGHORNS — BEST LAYERS ON earth. Hatching eggs from Hoganized yearlings. $1.50 per setting. Baby chicks, April 28th. Champney, 25 S. Logan, Denver.

COLUMBIA HATCHERY—ALL LEADING VArieties of baby chickens, cockerels, turkey gobblers and hatching eggs in incubator lots. We ship to all parts of Colorado, Wyoming and New Mexico and guarantee live delivery to your express office. Write for our price list and particulars. P O. Box 1102, Denver.

BABY CHICKS THAT LIVE. THE REAL Rhode Island Reds and Brown Leghorns. Price, 18c apiece or $16.00 per hundred. Will sell a few dozen of my "Lay More" strain of Barred Rocks from the same strain that won the blue ribbon at the Denver Stock Show at 30c apiece. J. R. Anderson, Ft. Morgan, Colo.

CHICKS THAT LIVE, LAY AND PAY—BOOK your order now. All leading breeds hatched. We ship everywhere, live delivery guaranteed. Book on chicken raising with all orders. We ship by mail and express, only strong, healthy chicks sent and prices are right. Send for our list at once. And be careful to address us Box 74, Denver.

HELP WIN THE WAR—PURE BRED LAYIN strain day old chicks. Delivered at yo express office, guaranteed alive. Large stra S. C. White and Brown Leghorns $18.00 p 100. Barred Rox, R. and S. C. R. I. Red $20.00 per 100. Leftovers above breeds, $15.0 per 100. Orders for 100 or more expre prepaid. These chicks are hatched in th right climate to live when you get them Edward Steinhoff, Leon, Kan.

PET STOCK

THOROBRED SCOTCH COLLIE PUPPIES FO sale. E. L. Martin, Thatcher, Colo.

COLLIE DOGS, ALL AGES, MATRONS BRE and open stud dogs and puppies. Frank Dav and Sons, Holbrook, Nebr.

PUREBRED SHEPHERD PUPS—FEMAL $4.00; males, $7.00. Andy Mikkelson, Utic Neb.

INCUBATORS

IT'S GOOD BIG HATCHES YOU WANT. DEI ver Incubators are built and tested for this di climate and positively hatch big, strong chick Get our free catalog. Low prices, with freight pr paid. Coal-heated colony brooders $17.50. O lamp-heated brooders can't be beat. For Sale- Baby chicks and hatching eggs from Hoganiz flocks that will make you money. Selected fro the best in Colorado. Denver Incubator Co., 17 South Broadway, Denver, Colo.

NURSERY STOCK

Advertisements under this head will be inserted at 5c word, four or more insertions 4c a word each insertion. display type or illustrations admitted.

READY TO SHIP POTATO PLANTS, AL varieties. Robt. Chambliss, Liberty, Texa

DAHLIAS—GLADIOLUS. SEND FOR CAT log best varieties. Newman Dahlia Garden W. 23rd and Zuni, Denver, Colo.

GUARANTEED EVERBEARING STRAWBERR plants. Will produce fruit the first yea Progressive, $1.25 per 100. Superb, $1.00 p 100. Not prepaid. Ed Keehn, Littleton, Colo.

BUY TREES FOR YOUR ORCHARD OR GROV and have two and thre years to pay at the sam time. All stock that fails to grow replaced fre Address Weldon Valley Adv. Co., Weldona, Col

POTATO PLANTS—100 FOR 45c; 500 FO $1.85; 1,000 for $3.50; postpaid. Nanc Hall, Triumph, Southern Queen, Porte Rica, Re Jersey, Pumpkin Yam, Pink Yam, Dooley Yam Ozark Nursery, Tahlequah, Okla.

EVERBEARING STRAWBERRY PLANTS; PRO gressive variety; flavor, heavy bearing qualitie and ability to bear in cold weather makes the best small fruit for mountain states. Price $2.0 per 100, $5.00 for 300, $15 per 1,000; prepai J. L. Salladay, Arvada, Colo.

1,000 ONION SETS FOR $1.00, PREPAID— Special Colorado Hazel size sets. Ever set makes an onion. Good for green onions an very best for growing matured onions for winte use. (East of Mississippi river, $1.25.) As for catalog. J. D. Long, Boulder, Colo.

SEEDS

DRY LAND ALFALFA SEED. De Shon, Logar Kans.

CHOICE WHITE SWEET CLOVER AND AL falfa at farmers' prices. J. M. Lewis, Virgil Kan.

SAN LUIS SEED PEAS—CARLOAD OR LOCA shipments. Prices and samples gladly sul mitted. A. A. Salazar & Son, San Luis, Colo

ALFALFA SEED FROM NORTHWEST KANSAS 95 per cent pure, good germination, $7.50 pe bushel. Order early, freight will be slow. Geo Bowman, Logan, Kans.

SUDAN GRASS SEED—THE BEST DROUTH resistant forage plant. Was never so muc in demand as now. Best quality seed 30c pe lb. Address Grower, Wm. Ritchie, Arlington Cal.

SEED—SUDAN, 25c; RED TOP, 12c; RED AN White Maize, 7½c; White Kafir, 6½c Feterita, 11c. Choice, re-cleaned seed, guar anteed free from Johnson grass. H. E. Mille Gro. Co., Lubbock, Texas.

ORANGE CANE, $4.00; GERMAN MILLET $2.50; seed corn, $4.00, all per bushel Feterita, $6.00; Sudan Grass, $25.00 per 10 lbs. Sacks 15c extra. John Holmstrom, Ran dolph, Kans.

FOR SALE—LARGE NAVY BEANS; STRICTL handpicked. Extra fancy seed or for cooking 15c per pound, sacks extra. Plant an acre fo Uncle Sam. H. Dierks, Jr., Minatare, Neb.

WHITE SEED CORN, $3.00 BUSHEL. BLAC Amber cane, $4.25 bushel. E. H. Copenhaver Abbyville, Kans.

TRACTORS

FOR SALE—Avery Tractor and Separator, Deer Plows. W. D. West, Barr Lake, Colo.

TRACTOR FOR SALE—EMERSON-BRANTING ham Big Four 20-35. Engine lift four 14-inc plows. In A-1 condition. Can make immediat delivery. Heavy plowing all done. Do not nee it longer. Will sell for half price of a new out fit. Address E. W. Jackson, 1453 Birch St. Denver. Phone York 1942W.

LUMBER

LUMBER—POSTS. WRITE US ABOUT prices delivered at your station. Send lis for estimate. Pay after unloading. Kirk Com pany, Box 1138-S, Tacoma, Wash.

LUMBER, LATH, MILL WORK. GET OUR direct-to-consumer prices before building. Cat alog, plan book free. Contractors Lumber Sup ply Co., 443 Lumber Exchange, Seattle, Wash

LUMBER, SHINGLES, MILLWORK, LOWEST mill prices. Prompt shipments. Inspect be fore paying. Send carpenter's list for fre freight prepaid figure. Keystone Lumber Com pany, Tacoma, Wash.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES— Ford's the best kodak store, 1029 16th St. opp. old P. O., Denver, Colo., for Eastman Ko daks, all makes cameras, films, photo supplies develop any size roll films, 10c; print pictures 3c each and up; mail orders solicited; kodak an camera catalog mailed free upon request. Men tion this paper.

FREE—SEND NAMES OF FIVE KODAK OWN ers, with first order, and get a beautiful fiv by seven enlargement from your favorite film Developing 10c, prints 3c up. Foto Art Co. Dept. N, Norfolk, Neb.

BEE SUPPLIES AND HONEY

E SUPPLIES OF BEST QUALITY. SEND 'or 68-page illustrated catalog. We also sell nb and Extracted Honey. The Colorado Honey ducers' Association, Denver.

HELP WANTED

S. GOVERNMENT WANTS HELP. MEN-women, 18 or over, $100 month. Quick ad-cement. Thousands war positions open. Easy rk. Write immediately for free list positions. nklin Institute, Dept. O172, Rochester, N. Y.

LIVE STOCK

Advertisements under this head will be inserted at 5c a d. four or more insertions 4c a word each insertion. No lay type or illustrations admitted.

CATTLE

LKING SHORTHORNS FOR SALE. W. A. Wight, Las Animas, Colo.

R SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John ld Sterling, Colo.

R SALE—WE HAVE A FEW REGISTERED Hereford coming yearling bulls and five two-r old bulls. J. O. D. Ranch Co., Aroya, Colo.

R SALE—A PUREBRED JERSEY BULL calf, Washburn strain, three months old, born ve 8,00 feet, Vigorous, solid fawn color. rdon Kent, Pine Cliff, Colo.

R SALE — TWENTY-ONE REGISTERED Hereford heifers coming two years olds, the best Anxiety breeding, at $175.00 per ad. F. O. B. Aroya, Colo. J. O. D. Ranch, oya, Colo.

WS, HEIFERS AND BULL—34 HIGH grade Hereford cows, mostly 4 and 5 years and dehorned, are Brown Lad's breeding d grade next to registered stock. 22 head oice coming yearling heifers of Freighter 17 eding. Also herd bull, Freighter 17, is 4 ars old. Cows are due to calf after March th. Must sell for I have no pasture from w on. Josef Neugelbauer, Julesburg, Colo.

HOGS

ROC-JERSEY HOGS—LARGE, BIG-BONED, registered and immune. J. B. Benedict, Prop. ylidemere Farm, Littleton, Colo.

GISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. ldwell Martin, Owner.

ROC JERSEY HOGS—THE BIG BONED, large, prolific type. Young pigs by the nior Champion boar at the last Denver Show, ion Cherry King 15th. Did you see our and champion barrow that sold at 50c per und? J. O. D. Ranch, Aroya, Colo.

HORSES

R SALE—ONE IMPORTED PERCHERON stallion, 8 years; 2 Belgian studs coming 2 ars; 1 Missouri jack, 7 years. E. T. Purinton, ilcox, Neb.

FARM AND RANCHES

R SALE—400 ACRES IRRIGATED RANCH in beet growing district, fertile soil, plenty water, price $75, terms to suit, paved road w being built. N. L. Strong, Sheridan, Wyo.

R SALE—220 ACRES IN BARTON COUNTY, Missouri; small improvements, abundance fine nning water; a fine cattle or sheep ranch; price, 0,000; good, easy terms. J. B. Duvall, Lock x 172, Butler, Mo.

MISCELLANEOUS

EAN YOUR ALFALFA—POCKET GOPHER Trap. Send me $3 for one-half dozen. Guar-nteed or money refunded. Success Gopher ap Co., Harlan, Iowa.

R SALE OR WOULD TRADE FOR CATTLE r range horses—One Registered French Draft allion and one Mammoth Jack. Apply to R. yor, Box 272, Las Animas, Colo.

ILL TRADE CITY AND RANCH PROPERTY near Grand Junction, Colorado, for the fol-wing second-hand implements: One small size reshing machine, about an 18-inch cylinder, ith belting, etc.; one Clark Cutaway bush and g plow, one Martin Dichter, one small size w mill, not over 10 h. p. James McKenzie, spen, Colo.

$25 Holsteins $25

You can buy calves for less but when you buy stock from Roberts you get value received. High Grade 15-16 pure, 5 weeks old calves. Specify markings. Express paid. Satisfaction guaranteed for $25. Cows $125.

J. A. ROBERTS

Cattle Expert Waukesha, Wis.

HOLSTEIN CATTLE

Breeding Herd numbers eighty head. Established in 1901. Cattle unexcelled for type and production. At present we are offering A FEW YOUNG BULLS READY FOR LIGHT SERVICE. We ship subject to inspection, furnish health certificate and written guarantee. Write to

LITTLE & LITTLE, Clarks, Nebraska

can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Galloway and Hereford calves and yearlings. Prices $75.00 and up. Pedigrees with each, also guarantees. R. I. LITTLE, Good Block, Des Moines, Iowa.

Shorthorn and Polled Durham Cattle

Valentine's Last, X12316, 452008 at head of beef herd. Claywood White, 427356 at head of milk type.

STATE INDUSTRIAL SCHOOL

Golden, Colorado

Improving Wyoming Flocks

To the Editor:

We are having fine weather and the sheep are looking better than they have for years. We are lambing a small band of Hampshire ewes and are having great luck. Nearly every ewe has twins and some of them triplets. When they are lying in the sun it looks like they have a litter like pigs. I never saw so many twins in my life. Won't Hoover be tickled to death, and Farmer Putnam too.

Several of our Lander flockmasters left today for the Butterfield Ranch at Weiser, Idaho, to select rams for June delivery. Lincolns and Rambouillets. It looks like good rams are going to be scarce this year, or else everyone is looking for better rams. It is common now to see registered rams in the range flocks. One of my neighbors has about two hundred head of registered Corriedales imported from New Zealand, and another has imported Lincolns and lots of registered Rambouillets. One of the largest breeders of sheep in Fremont county is feeding about 7,000 head of his ewe lambs thru the winter on ground alfalfa and corn and they are looking fine. He has 800 Rambouillet rams on the same feed. They are using self feeders all thru the county. Some are using beet pulp and ground alfalfa.

We have eight bands of registered ewes in Fremont county and some of the highest priced rams in the United States. It won't be long until we are sending out registered rams instead of bringing them in. Five registered bands were started this year, two of Cotswolds, two of Rambouillets and one of Hampshires.—Del Pratt, Moneta, Wyo.

Orchard Heating In Utah

The Utah Experiment Station has just published Bulletin No. 161, "Orchard Heating", by Dr. F. L. West and Mr. N. E. Edlefsen, which should be of great value to the fruit growers. The investigations were begun when "orchard heating" was being boomed in Utah. Agents representing manufacturing concerns advertised the practice widely and sold many of the Utah farmers equipment for heating their orchards. The Experiment station authorities could not advise whether or not "orchard heating" was practicable in the state, because no investigations had been made in Utah. However, exp riments were begun immediately as the practice was reported as being very successful in some of the other states, such as California.

The investigators have answered in a very thoro and scientific manner the following questions which have confronted the fruit growers of this section for some time:

1. How low can temperatures get and yet be able to protect the fruit buds?
2. What is the best method of heating in Utah?
3. Does it pay to heat in Utah?

The temperature to which the surrounding air may fall and yet keep the temperature of the orchard above the "danger point" depends on the rate of air movement and on the number of heaters used. A high wind makes "orchard heating" very difficult. With one hundred heaters per acre and a wind of not over 3 or 4 miles per hour, one can expect to keep his orchard about 4 degrees F. warmer than outside.

Smudging the orchard seems to be of very little value in itself; heat must be applied with it. Oil seems to be the best fuel, as it is a little more convenient to handle.

With fruit at its present price and the high cost of fuel "orchard heating" seems of doubtful value in Utah, the value of the fruit on the trees being usually less than the cost of heating to save it.

Each individual is a military unit in an unbroken chain, and a single weak link may cause disaster.

BLUE RIBBON HERD

DUROC JERSEY HOGS
Everything Registered
Stock for Sale

C. F. BURKE, Rocky Ford, Colo.

HIGH GRADE HOLSTEINS

WE OFFER FOR SALE, choice, beautifully marked heifers or bulls, 3 to 5 months old, $45.00 crated F. O. B. cars. Write

W. C. KENYON & SONS, Elgin, Ill.

125 Unregistered Western Holsteins at Auction

At Denver, Colorado, Wednesday, May 1st, 1918

The time has come in our breeding operations when we must dispose of every unregistered Holstein on the place. There will be 125 head of them from one to ten years of age. This is undoubtedly the best lot of high producing unregistered cows ever offered for sale in America. It is the only instance on record that unregistered cows are offered that carry the blood of World's Record Milk and Butter Producers, and the blood of Winners in the America's greatest Show Rings. This would not have been possible but for the fact that we have used the same sires on our unregistered herd that we have been breeding to our registered herd. For over 20 years we have been breeding only to the highest bred sires—have been culling and testing, and only raising the heifers from the very best cows, until the producing ability of the herd is now from 10,000 to 15,000 pounds of milk per cow per year.

In many instances it will pay you to sell your entire herd of medium producers and buy some of these high producers. The net profit to you would be much larger. The U. S. Government is pointing out the fact that only the best of producers are going to withstand the high prices that are prevailing and will prevail for years after the War ends. These cows are paying for hay at $20.00 per ton, ensilage at $8.00, and grain $4.00 per hundred, and returning $2.50 to $4.00 for each Dollar's Worth of food consumed.

We are unable to keep these unregistered cows on the Home Farm on account of the growth of our registered herd. If the labor market was not so uncertain we would put this entire unregistered herd on another farm under a good supervisor and continue them in service as they were never paying as well as at present, but we dare not let them go out from under our immediate supervision and our loss is going to be your gain.

Sale to be held at our farm 5½ miles southwest of Denver on the Morrison Road. Send for your catalog today. Sale commences 9 A. M.

WESTERN HOLSTEIN FARM

HALL BROS. PROPS., BOX 2, S. DENVER STA., DENVER, COLO.

THE PLATTE RIVER CATTLE COMPANY

Denver, Colorado

PURE-BRED

Hereford

BULLS

We Have on Hand and For Sale

250 Head Yearling Bulls

100 Head Two-year-old Bulls

Good Bone, Colors and Markings
Fine Condition for Service

Write or phone us regarding these Bulls. It will be worth your while.

715 E. & C. Bldg. Phone Main 3989

406 New Live Stock Exchange Bldg. Phone Champa 4793

HEREFORDS FOR SALE

Only one young Hereford bull left for sale, Heir's Successor, No. 614072, dropped September 30, 1916. Ready for service. Sired by Heir's Anxiety, No. 359788, the sire of Morris, Grand Champion steer at the Western Stock Show, 1918, who sold for over $800; dam, Winifred, No. 228963, a daughter of Keep On. This is a strong, growthy young bull, not a show bull in all respects, but will make a good herd sire for a small purebred herd, or will fit in well on the range. Price, $400.

We also offer a nine-year-old cow, Gipsy, No. 316045, with a good September bull calf at foot by Heir's Anxiety. Price, $350, if taken at once. Rebred to Heir's Anxiety. Calf alone will be worth the money by fall.

ANIMAL HUSBANDRY DEPARTMENT

Colorado Agricultural College FORT COLLINS, COLO.

HIGH-CLASS JERSEYS AND DUROCS

Majesty Oxford Combination, half brother to the grand champion at Columbus, at head of herd.

A September calf, by Count Majesty, out of Imp. Cowslip's Sweet Bread, an imported cow; a nice straight calf, solid color and good, at right price.

A spring boar, by Proud Chief Jr., out of Dixie Girl, by Lee's Defender, at right price.

Also a few September pigs out of a daughter of Model Critic, by a son of Grand Model. Prices right.

A. M. McCLENAHAN, Greeley, Colo.

REO
"THE GOLD STANDARD OF VALUES"

All the Former Excellence Plus Many Refinements

THIS NEW REO LIGHT FOUR is, in all mechanical essentials, the same as its famous predecessor–Reo the Fifth, "The Incomparable Four."

THAT IS TO SAY, those principles of design and of construction which made that great Reo famous the world over for dependability and low upkeep, have all been retained.

WHEN YOU CONSIDER that that Reo Four remained standard in practically the same form for eight seasons (longer than any other automobile ever built save one);

IT MUST HAVE BEEN wonderfully right at every point; must have been. For during those years an host of rivals and imitators came and went.

AND ALWAYS REO maintained its supremacy.

SO WE FEEL that the best possible recommend for this latest Reo—this new Light Four—is to say that all those principles of design and that same quality have been retained.

REFINEMENTS have been made at many points however.

WE PREFER THE TERM "refinements" rather than improvements. For, truth to tell, no owner of a Reo Four could suggest an improvement in that great car.

REO ENGINEERS, at the same time the most experienced and the most progressive, are always seeking opportunities to refine details of Reos.

AND THEY FOUND WAYS to make parts of this chassis, always the most accessible ever built, still more accessible.

ALSO MORE POWER has been developed in the same motor by refinements of valve mechanism; better balance of reciprocating parts.

THE OILING SYSTEM has not been improved—no use trying to improve on what was already perfection.

ODDLY ENOUGH when we begin to talk about this new Reo Light Four, we feel an inclination to emphasize rather those features in which no changes have been made, than those where they have!

SUCH WAS THE QUALITY—such the dependability—such the low upkeep—such the satisfaction of 100,000 owners, that a better could be made only by refining details of the original model.

AND THIS ONE IS BETTER only because it is the latest, the most refined edition of that Reo Four.

YOUR REO DEALER will show and explain to you the points wherein these refinements have been effected—and he'll tell you the reason for each.

IN A WORD, for your convenience—in every case. For still greater accessibility. For still longer life. And for still lower cost of upkeep.

ASK HIM about these things.

WHEN YOU SEE THIS REO you will say the body lines, the finish, the upholstering are the finest Reo has ever turned out.

A LUXURIOUS EQUIPAGE; as handsome in appearance as it is excellent mechanically; yet at a price less than you had planned to pay for such a car.

DEMAND SEEMS unlimited. At present, almost hopelessly in excess of factory output.

SO ONLY THOSE who decide now and order at once can hope to obtain a Reo Light Four for spring delivery.

TODAY won't be a minute too soon.

Reo Motor Car Company, Lansing, Michigan

New Light Four
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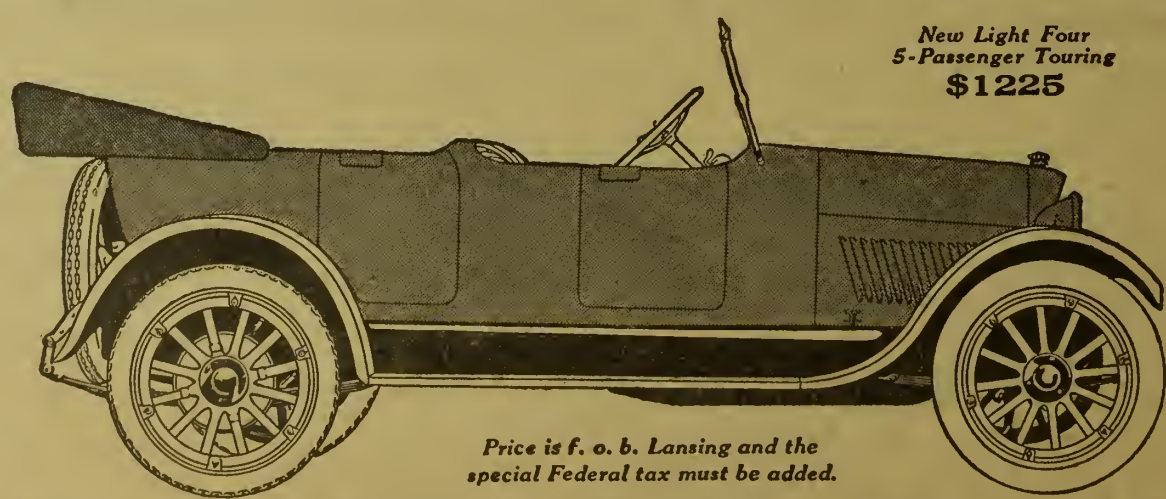

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WESTERN Farm Life

Vol. XX Denver, Colorado, May 1, 1918 Semi-Monthly

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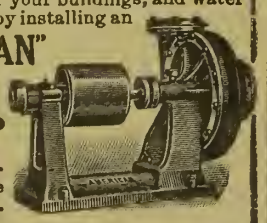

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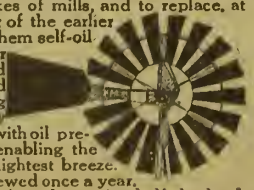

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The Deep Plowing Question

We are always looking forward to see what E. R. Parsons is going to say, and we think a good many of his articles are worth the price of a year's subscription to Western Farm Life. There is one thing tho, in regard to Mr. Parson's writings, that we don't understand, and I wish you would have him explain it to us so we can understand it.

Now you know he is always singing to us about deep plowing. Well, we've tried it and our neighbors have tried it—not only "tried it once," but many times and under different and many conditions, and the consensus of opinion is that it's no good, at least under our conditions. We have learned that where our land is plowed deep our crops are rather a failure or very much below the average on land that is not plowed, for about five years, unless we have an unusually wet summer during that time. In regard to our soil. Our county agent said it was a silt-loam, and another man, but the same kind of agent, said it was a clay loam, and I say it's the best soil on the Bone Dry flats. Why, Mr. Steinel, if E. R. Parsons or any other man came to our place with a tractor and deep tillage machine and offered to plow our land and do it for his board and lodging—well, we'd board and lodge him all right, but his tractor and plow would stay outside the fence.

Our usual method is to put in corn with a lister. If we have a good strong team we list deep; if we have a still stronger team we list deeper. Then we try to tear up the ridges between the rows as deep as the lister went and have the furrows level full when the corn is laid by. If we wish to have winter wheat, it is drilled in between the rows of standing corn and if we sow spring grain, millet or cane it goes in on the corn stubble land. The land is cultivated in the spring, before the crops are put in, to save moisture and prevent blowing. All this we learned from the Western Kansas and Oklahoma people who settled in here and brought their methods and listers with them. To be sure, if Mr. Parsons can show us a better way we will be glad to know it. I might also add that the soil packer or sub-surface packer has been tried out on the deep plowed land and given little or no satisfaction.—Gad Barney, near Haswell, Colo.

Mr. Parsons Makes Reply

Mr. Gad Barney tells us he is opposed to deep plowing, but he very frankly tells us that he lists deep and if he has a stronger team he lists deeper.

It matters little whether the seedbed is made with the plow or the lister, so long as it is deep.

Mr. B.'s method of listing the corn in and then plowing out the center of the rows with the lister later on, as as deeply as possible, raises good corn when a thoro job is done, but the big corn raisers in western Kansas and Nebraska and eastern Colorado, especially in the hard lands, plow deeply in the fall and cross list at planting time. This method often produces 60 bushels as far west as the Republican river and forty and fifty half way from there to Denver. Forty-five is also a common yield at Limon and even as high as Calhan, 6,500 feet. The trouble with silty soil is that if you plow deep and plant immediately you lose the value of your work.

The soil is too loose, too highly aerated, and as Mr. Barney remarks, the packer does not help out. The lighter the soil the more time it must have to settle before it is in condition to plant.

We have seen river silts which need little plowing because they have never settled enough to create a solid bottom; but since these conditions very rarely exist and only locally, we have seldom touched upon them.

We suspect that the main trouble in this region arises from the fact that on account of blowing, all the plowing is done at the last minute. Fall plowing at right angles to the direction of the prevailing wind, blows very little if left in the rough. We think that this should be tried out.—E. R. Parsons.

During a three and one-half year period, beginning July 1, 1914, the United States exported to the Allies more than 616,000,000 pounds of fresh beef and nearly 203,000,000 pounds of canned beef.

Some of the high schools of the state are organizing "baby beef" clubs and are asking for classes at the Stock show. If this movement can be made general an immediate benefit would result to the industry.

Much of the acreage formerly allotted to melon growing in Italy will be put under wheat this year, according to reports received by the U. S. Food administration. Native supplies of wheat in Italy are light.

The Spirit of War Service

Alone in the midst of war's desolation, the telephone lineman crawls to mend the broken wires.

On all sides the thunder of artillery; in the air bursting shrapnel.

He faces danger with that unconquerable spirit of war service which permits him to think only of maintaining the telephone connections.

The safety of the troops depends on these lines of communication, often used for the sentries' warnings, the carrying of official commands and the summoning of reinforcements.

In a dark hole hidden among sparse brushwood are the telephone operators, some of whom have been for months in their damp cave ceaselessly swept by shells.

And they are admirable, all these heroes of the Signal Corps, whether serving in darkness or in the all too bright light of day.

The spirit of war service over here as well as over there furnishes the nerves, the endurance, the morale—the stuff that wins war.

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The Food Controllers of United States and Canada are asking for greater food production. Scarcely 100,000,000 bushels of wheat can be sent to the allies overseas before the crop harvest. Upon the efforts of the United States and Canada rest the burden of supply.

Every Available Tillable Acre Must Contribute; Every Available Farmer and Farm Hand Must Assist

Western Canada has an enormous acreage to be seeded but man power is short, and an appeal to the United States allies is for more men for seeding operations.

Canada's Wheat Production Last Year Was 225,000,000 Bushels; the Demand From Canada Alone, for 1918, Is 400,000,000 Bushels

To secure this she must have assistance. She has the land, but needs the men. The Government of the United States wants every man who can effectively help to do farm work this year. It wants the land in the United States developed first, of course; but it also wants to help Canada. Whenever we find a man we can spare to Canada's fields after ours are supplied, we want to direct him there. Apply to our Employment Service, and we will tell you where you can best serve the combined interests.

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Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

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Volume XX | DENVER, COLORADO, MAY 1, 1918 | Number 9

The Western Farm Family Can Be Self-Supporting

A PRACTICAL FARMER TELLS US HOW HE ACCOMPLISHES IT

E. R. PARSONS

CAN the family on the dry farm become a self-sustaining unit by consuming such products only as are raised on the farm?

What is the answer? Can it be done, and if so, would it prove an economic advantage?

As regards the general farmer with a large family we believe the answer should undoubtedly be in the affirmative. With regard to the specialist and the man with a small family who is not so well fixed for chores, we are not so sure; but there is no denying that any farmer can raise about all the necessary food for the family on the farm if he determines to do so.

The first item in doing this is a good garden which is best worked in connection with a windmill and tank, where the rows can be laid off in such a manner that by laying the hose at one end they practically water themselves.

Dry farm gardens, however, are quite successful in many parts of the country without any watering. They owe their success to deep plowing and spading, with fertilizing not with green manure, but humus, either in the shape of leaf mold or black dirt dug out of some old cow or sheep corral.

The children in a family, if the parents lead them in the right direction, can always be interested in such things as gardening and the raising of poultry and stock.

We know of a family where two boys, under the direction of their mother, raised enough vegetables for the year round, and this is all done at odd moments outside of and sandwiched in between the regular farm work.

The first vegetable to appear in the spring is asparagus in April. About the end of April alfalfa shoots may be used for spinach and are delicious. These are followed by radishes, lettuce, peas, beans, potatoes and early cabbages. Rhubarb is also a valuable early vegetable and grows like a weed from the root.

The best winter vegetables are beets, carrots, turnips, and cabbage. All of these can be kept in the cellar. Turnips for winter use may be planted in July and often do better than those planted earlier. Summer squashes, pie squashes, and winter squashes are all great bearers and easily raised.

Roasting ears from the field are nourishing and always popular; beans also, which to some extent take the place of meat, are easily raised in the field or garden. Dried peas are particularly good for soup in winter. They are ground into flour and are cooked with a flavoring of bacon and dried garden mint (don't forget the mint).

On our dry farm in Colorado for our Fourth of July dinner we always look forward to green peas and new potatoes. The potatoes, the Early Six Weeks, were planted in a warm corner about April 1st.

Our Thanksgiving Dinner

One Thanksgiving day we gave a dry farm dinner to some of our Denver friends who were not entirely convinced as to the feasibility of our kind of agriculture. We had pea soup with little disks of toast, stuffed roast turkey and baked ham, mashed potatoes and turnips and squash pie, cherry pie, preserved plums with clotted cream for desert. Altho we had plenty of wheat and could have ground some if we had wanted to do so, the bread and biscuit were made from bakers' flour and the coffee, of course, was from the grocer's. Everything else was a dry farm product from our own ranch.

At this date a very good grinder and sifter may be purchased at the larger hardware stores for grinding by hand small quantities of flour, cornmeal, etc. In this connection it might be well to state that the best biscuits in the world are made from Durum wheat flour, and that fresh ground cornmeal like fresh ground coffee, has a much superior flavor to meal which has been stored.

An ordinary breakfast menu for the dry farmer would be something like this: new laid eggs, bacon or ham, Durum flour biscuits, cracked wheat or hominy, or cornmeal mush, with clotted cream. Clotted or cooked cream is as much superior to separator cream as separator cream is to skim milk. It is made by placing a pan of your best cow's milk on the stove until it just about comes to a boil—begins to bubble just a little; then it is removed and put away to cool. The cream all comes to the surface and becomes thick and delicious. Children will eat it like ice cream and it is more fattening for them than cod liver oil.

Make Your Breakfast Foods

The breakfast foods easily obtainable on almost any dry farm are: Cracked wheat, whole wheat, hominy and corn meal. The cracked wheat is made by setting the grinder to just crush the grain slightly instead of pulverizing it. Whole wheat should be put in hot water in the evening and allowed to soak all night, and will cook easily the next morning. Corn hominy is made by soaking corn in lye water or a thick mixture of water and wood ashes until the skins will slip on rubbing. After these are rubbed off, the white kernels should be placed in fresh cold water to soak out the lye, and after a few hours can be taken out and dried before storing for use.

Hominy may be used whole or ground to any size to suit. It is good anyway. If the dry farmer hankers for hot buckwheat cakes, all he has to do is to plant a quarter of an acre of buckwheat for the family. It grows like a weed without water.

A family orchard is most desirable for health's sake, and since cherries, gooseberries, currants and strawberries grow wild without cultivation, nobody need be afraid to plant them.

Apples, pie cherries, and the American red plums are now raised everywhere in any soil, even high up in the mountains, both with and without water. Lacking a family orchard wild fruits may be obtained along the creeks, in the foothills and gulches.

Choke cherries make a good jelly but do not jell easily. They can be made to do so by using a teaspoonful of gelatine to about a pint of the juice. The wild currant is excellent for jelly or jam. The wild gooseberry for jam and the wild plums for jelly or jam and for bottling to use for pies in winter.

Put Up Beef and Pork

As regards meat the diversified farmer finds himself more diversified than ever. To begin with, he kills a yearling or two-year-old in the fall and hangs it up to freeze. All winter the family can suit themselves as to joints; an ax and a saw are all that is necessary. But if he thinks of the future he will put down some nice fat pieces in a barrel with brine for corned beef in summer, and the "boss" will insist on a few nice joints which she will roast enough to cook thru and put down in lard in another barrel also for summer use. This settles the beef question.

The dry farmer, of course, keeps hogs and smokes his own ham and bacon, and in this connection we might remark that when this meat comes out of the smokehouse it has doubled in value. There is also much demand for ranch cured meats. The meat program may be varied by keeping a few sheep. A small pasture with a shelter, water, and a coyote proof fence are about what is necessary, and a little feed in winter keeps them going.

Poultry gives us a welcome change of diet. We believe that the economic limit on a good sized farm is about 100 hens, unless the farmer makes a specialty of it. Fifty hens should be consumed or sold every year, so that no hen on the place is more than 2 years old. Fifty pullets must be raised every year to take the place of those which are removed and that means raising at least 100, for half will be roosters.

Referring again to the bill of fare for the year, here we have 50 old hens and 50 spring chickens (roosters). This may still further be amplified and varied by raising a few turkeys, ducks, guinea fowl, or Belgian hares.

Jackrabbits are Fine Eating

There is usually some wild game also around the place, such as cottontails, ducks, quail or jackrabbits. This last, the jackrabbit or hare is not valued very highly by the farmer. In Europe, where they are scarce, they bring about a dollar a piece. There is a great deal in the cooking. Jugged hare is the best. Cut up a young jack and put the pieces in a stone jug or crock; add some pieces of pork, sage, onions, black pepper and salt, also a little flour to thicken the gravy and any other flavoring preferred. Then, after putting in enough water to cover the meat, close the opening of the crock with brown paper, tie tight, place in an oven and allow to simmer slowly for about 24 hours.

Speaking about flavorings the foundation of many of the popular sauces sold in stores is the mushroom. As a rule we neglect the mushroom. In France they are as much sought after as ten cent pieces; none go to waste. Our prairies are often full of them. We should use what we can (for they are delicious, fried in butter with a little black pepper), and then dry the rest in the sun and keep for flavoring purposes.

The common puff ball is also a delicious fungus when fresh. There is no danger whatever in eating these, for they become intensely bitter before they become the last bit poisonous. The writer has eaten lots of them sliced and fried in butter.

If the farmer hankers for fish he can raise it, provided he has a spring on his place which will provide water for a pond about 150 feet long and 10 or 15 feet wide. He can stock it with catfish, the best of all fish to some people's notion—the bullhead variety—and they will grow and multiply. If he fancies terrapin he can introduce a few mud turtles and have all he requiries, for terrapin is nothing but mud turtles. I have eaten the former in New York soaked in sherry at a dollar a plate, and the latter in Kansas caught fresh in the creek, and the Kansas variety was better than the Baltimore.

A big item in the family grocery bill is that of sugar. In southern Kansas, Missouri and adjoining states,

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Hog Carcases Ready for Salting Down After the Spring Killing on the Vermilyea Farm Near Platteville, Colo.

Modern Shearing Sheds Benefit the Wool Industry

ELIMINATION OF MIDDLEMAN IS HELPING THE SHEEP RAISER

CHARLES I. BRAY

THE greatest forward step of recent years in the development of the wool industry of America has been the introduction of what is usually termed the modern or Australian type shearing shed. The first shed of this type built in America was the Pioneer shearing shed near Bitter Creek, Wyoming. It aroused great enthusiasm in all who saw it in operation. The new shearing shed bears about the same relation to the old type that a modern packing plant does to an old time slaughter house, and is as much a twentieth century necessity. The

The Wool Classer and Bins, Classing and Skirting Table, at Shoshoni, Wyo. (Photo by Chalmers)

same principles of scientific management that are employed in modern factory construction have been applied here. The shearing shed was developed in the greatest wool producing country of the world, Australia, and is rapidly being adopted thruout the principal wool producing states in America.

First of all the sheds are well and substantially constructed. They are roomy, well lighted, well ventilated, and can be kept at any temperature desired, except in unusual extremes of weather. The floors are solid and dust proof, except in the case of the floor of the sweating pens. Machine shearing is practiced entirely, the sheds containing 8, 12, 16, 20, or 24 machines on a single line shafting driven by a gasoline engine.

A great improvement has been made in the way of handling the sheep. The sweating pens and catching pens are so arranged that one man with a well trained dog can keep the catching pens filled for 20 or 24 shearers. The floors are built of slats ⅝ of an inch apart, which allows the dirt to drop thru, leaving the pens comparatively clean. A thousand sheep or more are driven into the sweating pens and are packed in there for two hours or more in a temperature considerably warmer than that on the shearing floor. This sweating makes the oil flow freely in the wool so that shearing is much easier.

The sky-lights are arranged so that the sheep are always traveling towards the lighter part of the shed, thus making handling far easier.

The chief distinguishing feature of the new method is the way in which the wool is classified and baled. The American Wool Improvement association of Salt Lake City, which has been foremost in introducing the new system, engages a number of expert wool classers, who travel from shed to shed with the shearing crews and sort the fleeces into their respective grades. After the wool is sorted it is baled and stamped with the grade, the weight of the bale, and the stencil trademark of the association.

The last but very important feature is the cleanly way in which the wool is handled, and the economical reclamation of all waste. The shearing floor is scrubbed thoroly twice a week, and is kept swept clean at all times; the tables are all slatted so that all dirt from the fleeces falls thru underneath. The wool is thus kept clean.

Following the Wool Thru

The sheep are driven into the sweating pen several hours before shearing begins, and are warmed up ready for action when the shearers appear. Large gates cross the pen at intervals, so that the flocks can be crowded gradually towards the head of the catching pen alley as the work progresses. This alley is filled with sheep, which are then run into the catching pens in bunches of 20 or 30. At the Walcott shed visited by the writer one catching pen was made for every two shearers. The partition between the shearing floor and the catching pens extends clear to the ceiling, and the catching pens are entered thru double swinging doors on double acting spring hinges. The shearer steps into the catching pen, picks up a sheep, catching it back of the forelegs, and backs thru the doors which close of themselves. Setting the sheep on its rump he pulls the string which throws his shear into gear, and begins work. The belly wool comes off first and is removed by the sweepers. Few things are more interesting than to watch an expert shearer at work finishing sheep after sheep, in from a minute and a half to two minutes. Expert shearers often shear over 300 sheep per day. Always following the line of least resistance, and greatest efficiency, the wide Stewart shears peel off the fleece in less time than the process can be described. As the fleece drops to the floor in one piece, the sheep is lying between the feet of the shearer with its nose at the opening of the chute. Shutting off the power the shearer lays down his machine and tips the sheep down the chute to his tally pen, where it will remain until counted and credited to

The Shearing Floor, Shoshoni, Wyo.

him by the shed superintendent.

We can now follow the fleece thru the shed. It is picked up by the fleece thrower and thrown onto the 5-foot x 10-foot skirting table which it entirely covers. One of the sweepers has stepped forward and swept up the floor before the shearer gets back with his next sheep, and carries the tags and locks to the piece pickers' table at one side of the room. There is little

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The Cherry Creek Country Is Now Producing Gold

YELLOW NUGGETS REDEEMED BY THE FLOTATION PROCESS

BACK in the early days of Colorado when prospectors were panning the streams for gold, Cherry creek was a good source of income from tiny particles of yellow dust that rewarded the patient searcher. It was always a puzzle and has remained one to this day as to just where this gold came from. The creek heads on the summit of the Arkansas Divide some miles eastward of Palmer Lake and is only about 60 miles in length, emptying into the Platte near the Union station in Denver. No gold bearing rock has ever been found along its course and as the sand long ago ceased providing treasure, the stream was forgotten by prospectors.

If we are to say that gold has been found along Cherry creek calm your excitement, because this is not an invitation to a Cripple Creek rush. Nevertheless gold has been found, and is being found, in paying quantities every day. And it comes from Cherry creek and the banks of the creek. It is found right at the grass roots. In fact, the grass itself has something to do with it.

This gold is not in fleeting atoms of dust picked up by mercury, but in tiny yellow globules or nuggets. It is redeemed by the flotation process. The lodes and veins are found not in the geological formation of the Cherry creek slopes, but in the anatomy of the dairy cow; the cream separator is the concentrator and the "yellow metal" is rich, golden butterfat that brings its price per pound on the market and is as staple and necessary as gold itself.

An old friend of the editor came from Missouri to Colorado several years ago and started ranching. John M. Nichols is his name, and Parker, Colo., his home. He is a recent comer to that neighborhood and charmed with the country. So enthusiastic was he over it that he insisted on sharing his joy with two old friends, one of them Mr. C. R. Slusser, a mine operator, and the other the editor. It was the mining man who saw the analogy between gold and butterfat and suggested this theme to the editor.

The Patterson ranch, as Mr. Nichols' home is named in honor of his son-in-law, is just seventeen miles southeastward of Denver. All along the way there is a continuous stretch of alfalfa bottom land, varying from one-half to a mile in width. Bordering this is rolling upland that produces corn, wheat, rye, and oats, without irrigation. Hay is the big crop and since cows invaded the valley the farmers have made milk production their chief business. The city of Denver reaches out to Parker for domestic supply, and beyond that point the auto truck lines pick up cream from hill farms for many miles. We met two big truckloads coming to town.

Among the farms visited was that of Mr. C. B. Ames, who settled on the creek a good many years ago, burdened with a debt of $5,000 and no working capital. In spite of this handicap he built up a prosperous dairy farm, educated his children and today there is nothing against the place, which is now a money-making business, stocked with high grade Holsteins. Three years ago, while sinking a well, Mr. Ames struck a vein of artesian water, which has been running constantly ever since in a strong stream. The well is 235 feet in depth and the artesian water is piped into the dairy barn and milkhouse. This water could be stored in a reservoir and used for irrigation of truck crops, altho this is not found necessary, as the farm has a water right going back to the early days that furnishes all the needed water from Cherry creek to irrigate the alfalfa.

There is a substantial dairy barn with stanchions for thirty cows and a concrete silo holding 180 tons, filled with corn grown on the place. Silage and alfalfa keep up the herd, with an ample supply of grass in summer, as the ranch has a total area of 1,285 acres.

C. B. Ames and John M. Nichols in the Barnyard on the Ames Farm

Adjoining the Ames farm is that of Norman A. D'Arcy, with 1.040 acres of land, a large slice of Cherry creek alfalfa bottom, where the cows were being pastured in March. This bottom furnishes winter pasture and grows hay in summer, while the cows are on native grass on the upland.

Mr. D'Arcy has a fine herd of Holsteins. In fact, one of his cows was second from the top in butterfat production for the month ending Feb. 20, in the report of the Douglas County Cow Testing association. This particular cow, America, produced 1,699 pounds of milk testing 3.4 per cent and 57.8 pounds of butterfat during that thirty day period.

The Patterson ranch comprises 720 acres and a start has been made in the dairy business, and there is also a good beef herd on the place. Spring rye was being drilled in when we visited the ranch. the farmers getting an early start with their spring grains this season.

At Parker we had the pleasure of a talk with Mr. Hood, the banker, whose acquaintances thought it was a joke when he announced that he intended to start a banking institution at Parker several years ago. He saw the drift toward the milk cow and knew what it meant to the community. His judgment has not been misplaced. The neighborhood visited is only a little corner of the Douglas county cow country. Somebody, not long since, suggested that the name of the county be changed to Cow county and it would be appropriate, for that is where the farmers have found their permanent prosperity. It isn't all easy money now, under wartime production costs, but the storm will be over some day and the dairy farmer will be found to have weathered it in a lot better shape than the grain farmer.—A. T. S.

History of the Pinto Bean In Its Own Home County

BEAN CLUBS START IMPROVEMENT THRU SEED SELECTION

CHARLES E. SMITH, *County Agriculturist*
LAS ANIMAS COUNTY, COLORADO

THE stories of how the pinto bean was brought to the United States appear in variegated forms. There are several men long past middle age living in Trinidad or the Sunflower Valley, who seem to remember the exact method of the introduction of the pinto bean and the date at which such introduction was made. It is not exactly clear to the writer as to just how or when the pinto bean was introduced in to the state. One story has it that it was brought from California. Another that it was brought from Old Mexico directly into Las Animas county, and the first pinto beans planted in America were planted in the Sunflower Valley. Another story has it that originally the beans came from South America, were grown to some extent in Old Mexico, and from there were brought by the Mexican people into New Mexico and thence into Las Animas county. It is sure, however, that they were brought in, and that the people have taken kindly to raising this crop.

In years past the price of pinto beans depended simply upon the amount of local market that could be developed, and practically no beans were shipped out. If there was a slight over-supply, the price went as low as $1.75 per hundred, according to some of our early planters. If they were scarce, they were such an item of importance in the diet of the Mexican people especially, that the price went up to five cents per pound.

It is only within the last three years that any considerable amount of beans have been shipped away from the immediate locality, and we are indebted to the brokers who have trade relations outside of the state for the first movement toward getting something more than local market for this crop. We still have people in the state of Colorado and even in Trinidad, the supposed home of the pinto bean, who believe that the pinto bean is not adapted to the high class trade; but this idea is rapidly breaking down, and more and more this excellent food crop is finding its way to the tables of all classes of people.

The final boost has been given it by the Food administration which purchased practically the whole crop in this state, as well as other states, and put it on the market in localities outside of Colorado. However, other sections may have taken to this disposition of the 1917 crop, the growers in Las Animas county in general are disposed to feel very grateful for the assistance given, and to believe that the advertising gained from this operation will put the pinto bean definitely on the market for years to come. We are especially grateful to Western Farm Life for the active interest it took in getting this crop definitely before the Food administration, and believe that the people in the state as well as adjoining territories should be made to realize the part that our own agricultural paper has taken in placing this particular crop before the consuming public.

Prospects for 1918 Crop

There are a few localities where the growers believe they can scarcely afford to raise pinto beans at eight cents per pound, even tho the price is much in advance of ordinary prices of years previous. However, with the knowledge that other short season crops are more or less experimental, and the knowledge that beans have nearly always done well and made fair returns, it is believed that even in these localities no great curtailment of planting will be made, and we may even expect some increase in acreage.

In sections outside of our irrigated area where our new settlers have lately come in, we expect a large acreage of beans to be planted. Possibly no more to the farm than last year when we had about 12,000 acres of beans planted, but due to the fact that many more settlers have their places in order and land broken ready for a crop, the acreage will be increased because of this added number of people who will raise crops of all kinds. It seems certain now that we can easily predict a planting aggregating 14,000 to 16,000 acres.

County Agent Teaching Members of Bean Club How to Hand Pick Pinto Bean Seed From the Best Selected Plants

Methods Pursued in 1917

In 1917 the county agent, assisted by the County Farm bureau, outlined a particular project for the development of the pinto bean seed. This in brief is as follows:

The boys and girls of various sections were to be organized into bean clubs, with each member of a club agreeing to plant one acre of beans. This member was to enjoy all profits from this acre of beans, outside of actual expense of plowing, seed and cultivation. The instructions for caring for the beans and saving seed, were to be given by the county agent's office. One provision of the agreement was that no beans should be harvested from this acre until a demonstration had been held in the community, instructing the members of the club how to select the best plants for seed. Late in August Mr. Vaplon, the state leader of the Boys' and Girls' Club Work, was in the county, and with the county agent assisted in holding these demonstrations.

The remarkable thing about these demonstrations was the great variation in productivity of single bean plants, even though they were existing under absolutely similar conditions, so far as anything could be seen. When a patch was entered for a demonstration, the boys were sent out to count the pods on various plants, and to report after half an hour the number of pods which they had been able to count. The whole company then decided among themselves as to the minimum number of pods that would be accepted on any plant which would be used for seed. After so deciding, they went again into the patch and staked out those plants which checked up with the requirements decided upon by the whole club. These plants were to be carefully saved for seed and harvested by themselves.

In many instances we found plants with three or four scrubby pods only half filled, standing directly beside other plants having as high as 40 pods and all nicely filled with plump beans. If we stop to think for a moment we will know that if the good and poor plants are all thrashed together and we should hand pick our seed, we could not tell the beans that came from those having 40 pods or from those having only three of four, because on the one with few pods there would be some nice, plump, well-marked beans. In hand picking our seed, therefore, from bulk, we would be as apt to get the beans from the 20 plants having only three or four pods each one, as to get those from the single plant having 40 pods, and so far as improvement of the crop is concerned, we would get nowhere.

This line of reasoning was given to the boys and girls, and to their parents who were usually very much interested in the demonstrations. All could easily see the point.

The beans saved from these demonstrations were allowed to dry and at a later date another demonstration was held, at which we took these dried plants one at a time and thrashed them on a newspaper or a sheet. Boys and girls with their parents gathered together and assisted. The first demonstration was to secure high yield. The second demonstration was to secure quality. On shelling the beans from a single plant we picked up the whole pile of beans and carefully examined to see whether they were all well marked pintos or not. If there was a single off-color or off-type bean coming from that plant, the whole plant was discarded for seed and put in a pile by itself. If all the beans appeared to be marked correctly for high grade pintos, it was all saved for seed. It was remarkable how slowly we secured any seed that appeared to check up as absolutely pure. From out of the beans selected in the first demonstration for quantity, we found that more than half had to be discarded when we came to selecting for quality.

We are obliged to admit that only a small percentage of the boys starting on this project finished their work according to the program outlined, and in a sense the project failed, but we are encouraged by the knowledge that there was enough interest created in this kind of a project so that the people at present are desiring to continue it, and not only have their boys and girls join the bean club again, but several farmers' clubs desire to take it up as adult work and go into it as a money-making business so far as the development of the pinto bean crop is concerned. Enough was done to show the value of the work.

Plans for Continuing

The farm clubs in the bean raising area are now being organized into bean clubs. Where there are enough boys interested to take up the work there is a boys' bean club, and also an adult demonstration club, with possible rivalry between the two to see who can make the greater gain.

The farmers engaged in the project will agree to plant some plant-selected seed alongside some not selected. A demonstration will be held in the fall to determine whether or not there is any difference in the result. Many are enthusiastic enough to believe that the crop can be increased in yield 50 per cent and the quality very much improved.

To show that there was interest in this matter, the county agent received several letters from parties outside the state, asking for some of the seed selected. This project was briefly outlined in Western Farm Life, some months ago, and this is no doubt where they received their information. It may be said that only a few gallons of such seed were developed last year, partly due to the fact that we had a very dry year and some of the demonstrations failed entirely, and partly due to the fact that some of the boys got tired before they finished their work. We hope within two or three years to be able to supply all the high grade seed that may be desired, but it must be understood that the price will be adapted to the quality of the seed.

It is also worthy of note that the state is now taking up the work of improving the pinto bean seed, and Mr. P. K. Blinn, our own alfalfa specialist and experienced plant breeder, as started the work at Rocky Ford. We furnished Mr. Blinn with four and one-half ounces of beans which were taken from a single dry land plant; also other beans that were supposed to be good seed.

Our project will now be carried on to improve the seed so far as possible under our busy life conditions. We shall at the same time keep a sharp lookout for any especially extra seed coming from our special plant selection, and then will intrust it to Mr. Blinn to farther develop it for the use of the whole state.

Eat Pinto Beans; None Better

This is the slogan that appears on a sticker now being used on the letters sent out by railroads, bean jobbers, large growers, commercial organizations and others interested in the development of a permanent market for this nutritious and palatable meat substitute. Clara A. Lucas of Denver is the originator of the idea of using the stickers and responsible for the very effective and handsome design. The Brock-Haffner Press handled the job, the initial run being one million stickers. They are printed

in three colors, the design showing the pintos as a war time food.

Mrs. Lucas is actively interested in farming, being the owner of a large ranch near Cheyenne Wells, Colo. She was formerly connected with the Land Department of the Union Pacific railway at Chicago, but is now making her home in Colorado. Bean growers are indebted to her for the excellent idea which is giving pintos publicity all over the United States, and which will help in making permanent the market developed by the United States Food administration.

Use Three Horses on Plow

By hitching a third horse to a two-horse walking plow a man can cover at least a quarter of an acre more per day, according to the U. S. Department of Agriculture. This makes a difference of about five acres in twenty days, or a saving of from two to three days' work, which is a big consideration during the busy season. During an unfavorable plowing season this saving of time may mean the difference between a big crop and a small one. The time and labor thus saved in one of the heaviest farm operations of the year may mean also that an extra man does not have to be hired. A farmer who has a little more plowing than can be done by one two-horse plow and who ordinarily employs an extra man and another two horse team might be able to dispense with the second outfit altogether by simply hitching a third horse to one of his plows.

Spring Crop Report Favorable

PROSPECTS BETTER THAN LAST YEAR

WINTER wheat prospects in Colorado, Wyoming, Utah and Idaho are good to excellent. New Mexico reports indicate much of the winter wheat dried or blown out during a drouthy period that, in the eastern counties lasted from August, 1917, to April of the present year. All sections of Western Farm Life territory report soil and moisture conditions for the spring grains and row crops very good; much better, on the whole, than at the same time last year, with the season from three to four weeks in advance of 1917. This has facilitated planting. Farmers have been able to get spring grains in the ground before time for planting beans, corn, kafir and other row crops.

Favorable moisture conditions reported in the last issue have continued. Spring winds were less general than usual, altho a few sections reported particularly hard winds during the dry period of March, inflicting some damage on winter wheat.

Government reports as of April 1st indicated winter wheat condition for Colorado at 86 per cent; Idaho at 97 per cent; Wyoming at 90 per cent; Utah at 90 per cent, and New Mexico at 70 per cent.

Western Farm Life reports received since that time from county agents indicate improvement in all sections except a few New Mexico counties, where the results of the winter drouth have just become apparent. In part of that territory, however, rain has fallen and spring grains or forage crops will take the place of abandoned winter wheat acreage.

There was some uneasiness earlier in the year concerning the snow supply for irrigation, but the deficiency is being made up and the indications at this time are for a normal water supply for all needs. This holds true except in the San Juan country of Colorado, where there appears to be a short snow supply.

Sugar beet acreage will show a decrease when the final figures are in, because of the long drawn out controversy over the price. However, land that will not grow beets will be in spring wheat, beans or some other crop equally necessary to help supply the world with food, so there will be no loss in the aggregate.

The acreage of pinto beans promises to be equal to that of 1917 in Colorado and New Mexico, with more farmers trying the crop in adjoining mountain states where climatic conditions are favorable. Conditions for planting beans, so far, are more favorable than a year ago and farmers are getting an earlier start with their preparations for the crop, as well as better seed at a lower price. The government is selling seed thru the Food administration at 9 cents f. o. b. Denver, Greeley, Trinidad (Colo.), or Clayton and Albuquerque (N. M.), at which points seed beans have been stored.

Following is summary of crop reports from county agents in Colorado, Wyoming and Northern New Mexico:

COLORADO

Adams county—Winter wheat condition, 100 per cent; greatly increased acreage. Ten per cent of the spring grain had been seeded by April 10th. Expect good increase in spring grains over last season. Moisture conditions may be rated at 110 per cent, compared with last season at same time.—George R. Smith.

Weld county—Northern part of county, winter wheat badly blown out; southern, conditions good; the average for county is 70 per cent. Winter wheat acreage limited, as it was too dry at seeding time. Seed call indicates good increase in all spring grains. Weld is in fine shape to produce an immense crop. Work way ahead because of the open weather. Our great ammunition factory for food products is doing business and can't be blown up.—Mason E. Knapp.

Jefferson county—Winter wheat condition about 90 per cent; acreage limited. According to our agricultural survey, there will be 10,650 acres in wheat this year, which is 20 per cent over last season. About 80 per cent of the spring grain has been seeded, showing good increase over last season. Moisture and soil conditions extremely favorable.—F. C. Tripp.

El Paso county—Winter wheat condition, normal; acreage limited. Expect larger acreage of spring grains than last season. Moisture and soil conditions are generally better than at same time last spring.—W. H. Lauck.

Arapahoe county—Winter wheat looks better than it ever has at this time. We have a large acreage of winter wheat considering the amount of land under cultivation. Expect about same acreage of spring grains as last season. Moisture conditions very favorable; recent rains have improved conditions wonderfully.—W. A. Groom.

Fremont county—Winter wheat limited acreage, but condition good. About 2,500 acres of spring wheat already seeded. Expect increase of 20 per cent in spring grain acreage. Moisture conditions are very good, especially on the south side of the river. Prospects are no better or no worse than at same time last season, which means good prospects.—R. R. Jeffries.

Boulder county—Winter wheat generally good, but some fields show poor stand. About 22,000 acres in winter wheat, which is less than usual, but shortage will be more than made up by spring wheat. About 28,000 acres spring wheat, oats and barley just being seeded. Conditions are much better than at this time last spring. There is not so much moisture to date, but plenty for best resutls.—H. H. Simpson.

Morgan county—Winter wheat condition, 110 per cent; large acreage, about 35 per cent incerase over last season. Spring grain seeded so far about 40 per cent inerease; other grains about average. Expect increase in spring grains. At this date, April 10, conditions dry; not suffering, but have less reserve moisture than a year ago at same time. No need for alarm, as we generally get the moisture and rain threatens now.—C. G. McCord.

Logan county—Winter wheat conditions generally good, but a little dry; large acreage. Expect larger acreage of spring grains. Seeding up to present time 10 per cent above normal. Season more advanced, but drier than last spring at same time.—George C. Burckhalter.

Sedgwick county—Winter wheat looking good as a whole. A few dead fields because of dry weather last fall. Lots of land being broken for spring wheat. Elevator men have sold 50 per cent more seed than last season, indicating much larger acreage of spring grains. Have had very little spring moisture up to this date, April 11.—Walter J. Ott.

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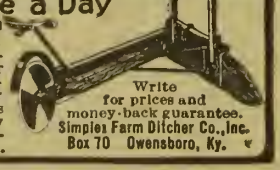

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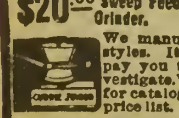

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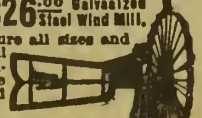

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Routt county—Winter wheat almost all came u winter in good shape; possibly 5 per cent fields spotted. Have only a limited acreage winter wbeat. Expect about a normal eage of spring grains. Season six weeks tber advanced than at same time last year, moisture conditions are good.—J. C. Hale.

Montrose county—Winter wbeat in fine condi-n. Much smaller acreage than last year. out 50 per cent of the spring grain has been ded. Had about 5,000 acres of spring wheat t year and expect increase. Moisture con-ns better than same time last year and ting is progressing better than last season.—C. Nevius.

Rio Grande county—No winter wheat grown e. Most of the spring wheat and the field s have been seeded. Increased acreage of se crops looked for. Very little oats and ley yet put in. Ground in fine condition regards moisture. A late snow of 15 to 18 es is responsible for this. Moisture and soil ditions average much better than last sea-—C. D. Hyatt.

La Plata county—Little winter wheat grown is county. Condition is 95 per cent. About per cent of the spring wheat has been ed. Expect an increased acreage of 25 cent. Moisture is abundant in the soil, there is a deficiency of snow in the moun-s from which we obtain our supply of irri-ing water. Soil is in splendid condition for seedbed and much new ground is being ed for wbeat.—E. D. Smith.

Montezuma county—Only about one-fourth of usual acreage of winter wbeat, as it was dry last fall at seeding time. About double acreage of spring grain has been seeded to e and we look for an increase in spring s of 25 per cent. Soil and moisture con-ions at this time are the best for many s.—G. P. Newsom.

Delta county—Winter wheat condition very d. About 1,000 acres to this crop in the nty. About 65 per cent increase in spring n seeding to date. Conditions are favor-e. We have had an over abundance of ing rains.—E. H. Divilbiss.

Las Animas county—Winter wheat is in ly good condition, what little we have. Ex-t an increase in spring grains. Season looks ellent for row crops. Spring grains on dry d are an experiment.—Charles E. Smith.

Prowers county—Winter wheat condition gen-ly good; large acreage. Considerable spring in has been seeded and we look for larger eage than last season. Soil and moisture ditions are considerably better than they e a year ago. Moisture has been more ndant and we have had less drying wind.—B. Darrow.

Huerfano county—Winter wbeat in most sec-ns looks very well; in some sections it was wn out, but most of it is in good stand growing vigorously. The acreage is lim-. Expect a large increase in spring wheat eage. Plenty of moisture in the ground, wing is well along and mucb seed is al-dy in the ground. Conditions are far more orable than at same period last year.—Waldo der.

Lincoln county—Winter wheat condition ex-ent; have moderately large acreage. Larger eage of spring grains and nearly all has n seeded. The season is generally much er than last season and moisture conditions very favorable now.—Scott Wisner.

NEW MEXICO

Quay county—Due to the extended dry ther the winter wheat is practically gone. have an area of about 75,000 acres in t crop. Had an inch of rain during the t week, the first moisture since last August. re will be a large acreage of spring grain ded, altho conditions so far are very little ter tban at this time last spring.—E. M. es.

Colfax county—Condition of winter wheat, per cent; acreage is only about 35 or 40 cent of the acreage of the two previous rs. Spring grain acreage seeded is large. ect an increase of 25 to 30 per cent over year. Moisture conditions this year are ahead of conditions at same time for two vious years.—V. L. Martineau.

Guadalupe county—We do not grow winter at. Expect about normal acreage spring ins. Very mucb drier so far this spring n up to this time last season. No grass and planting has not begun. Outlook is encouraging.—Dane Laubmann.

Union county—Most of tbe winter wheat ed; only 10 per cent still alive, but that looking good. Normally we have a large eage of winter wheat, but it is limited this r. Expect increased acreage spring grain other crops, as we have had about 75 per t more moisture for spring planting than al and conditions are ideal. Most farmers the wheat belt will plant spring wheat, oats barley.—Orren Beaty.

San Miguel county—Very little winter wheat planted in San Miguel county. About 1,500 s were planted in the fall of 1917. The er was very mild and very dry and the winds been severe this spring and half of the ter wheat was destroyed so that we will e about 50 per cent crop. Considerable in is being seeded. We are planting more t than any other grain. Oats and barley e next. We are planting a little more at this spring than last season. Moisture tions for spring planting are very good; fact better than last year at this time.—R. Gonzalez.

Mora county—Large area of winter wheat planted in this county last year. Due to lack of moisture in the winter and strong ds in the spring, the crop will be only about per cent normal. Farmers are taking ad-tage of the splendid rains of this spring considerable acreage of the winter wheat being planted with spring wheat in Mora nty this year than last. The moisture condi-s in Mora county are better than last season this time.—M. R. Gonzalez.

Taos county—Prospects for winter wheat best ever had, tho we have a small acreage. Con-on about 150 per cent of normal. Spring in acreage about 120 per cent. The out-k for the entire county is good, as we have nty of snow in the mountains and con-erable moisture in the soil.—F. E. Quintaro.

Torrance county—Winter wheat condition on small acreage is 90 per cent. About 1,000 es of spring grain has been seeded, this being increase over last season. As a whole con-ions are better than usual. Plowing was e earlier and all along the mountains it rained frequently.—R. L. Strong.

WYOMING

Niverse county—Practically no winter wheat wn here. Expect increase of about 20 per in spring grains. There is probably not half the moisture there was at this time last spring, but conditions for seeding and general farm work are very favorable.—A. F. Scott.

Natrona county—Winter wheat condition is 105 per cent; acreage limited. Spring grain acreage is larger by 20 per cent than usual. Soil has about the same amount of moisture as at same time last season, but growing conditions for crops and the range grass are much better. Livestock is in good condition; grass coming fast. If present conditions continue tbru lambing which has commenced, a heavy crop is predicted.—John C. Hays.

Weston county—Eighty per cent of the winter wheat is good; balance planted late when it was too dry, and has not sprouted. Condition in general about 90 per cent of normal. County has about 4,300 acres in winter wheat. Some spring wheat and rye has been seeded. Expect increase of about 15 per cent. Plenty of moisture and season is advanced by three weeks.—George Holmstead.

Crook county—Winter wheat condition above normal; acreage not large. Spring seeding has just started. Expect increase in wheat and corn, but decrease in oats and barley. This spring is earlier than the average and at least a month ahead of last season. This is a livestock country and grains are less important than stock. Livestock wintered well, with very slight losses.—W. R. Reeves.

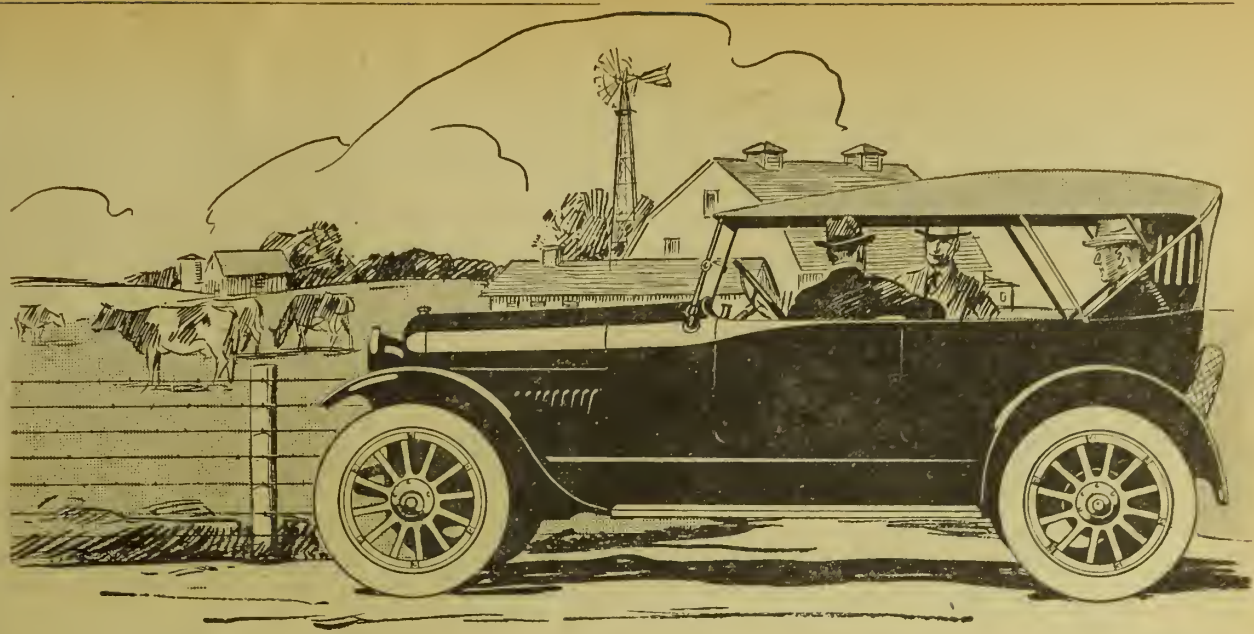
Campbell county—Winter wheat, limited acreage; condition 90 per cent. Spring grain seeding big; 250 per cent of normal. Moisture conditions are 100 per cent good.—P. T. Meyers.

Sheridan county — Winter wheat, small acreage; condition 100 per cent. Expect spring wheat acreage of 120 per cent. Very little yet seeded. Moisture conditions excellent; equal to last year.—H. J. Thomas.

Fremont county—Very little winter wheat grown. About 30 per cent of the spring wheat has been sown. Look for 25 per cent increase over last season. Our season much further advanced. Heavy snowfall of last week put ground in fine shape. Had been getting dry with open winter and bright spring weather.—M. B. Boissevain.

Niobrara county—Limited acreage of winter wheat, with condition 85 per cent. Spring grain will show a big increase; estimate 170 per cent of normal. Moisture and soil conditions at this time are 20 per cent better than at same time last year.—J. Carl Laney.

Lincoln county—Winter wheat condition 105 per cent of normal; limited acreage. Too early yet for spring seeding. Expect 10 per cent increase in spring grains. Moisture and soil conditions favorable; not as much snow in the valleys as last spring, but this will allow earlier working of the land and earlier seeding than last season, if favorable weather prevails.—Earle G. Reed.



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An average of about 600 hogs daily or a total of about 40,000 have been driven into the Omaha stock yards since January 1, 1918, and most of these are brought to the yards in motor trucks. This is by far a greater number than has ever been driven into this market in any corresponding period and is about 125 per cent greater than the total for the first three months of 1917. In January this year 13,128 hogs were driven into the Omaha yards, February, 11,848 hogs, and during the first nineteen market days of March, 14,112 against 5,024 for the entire month of March, 1917. The total since the year opened represents an average daily equivalent of nine standard railroad carloads of hogs marketed in trucks and wagons. In addition to the hogs more than 5,000 cattle and 13,600 sheep have been driven into this market since January 1, 1918. An appreciable saving in railroad tonnage is indicated by these figures and may be credited very largely to the increased use of motor trucks in marketing live stock from territory within a radius of 35 to 50 miles from Omaha.

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Western Farm Life

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Grattan and Hagenbarth

As announced in a previous issue there has been created an advisory committee of farmers to consult with the United States Food administration and the Department of Agriculture regarding agricultural problems. This committee, comprising twenty-three members, includes two from the territory of Western Farm Life, namely, Mr. John Grattan of Broomfield, Colo., and Mr. F. J. Hagenbarth of Idaho. These men are at the service of farmers in bringing to the attention of the authorities at Washington questions of production and marketing of war crops, whether field crops or meat animals, that may need adjustment.

Mr. Grattan has been engaged in farming all his life, leaving the farm in Iowa only long enough to attend the State Agricultural college at Ames and later the Agricultural college of South Dakota. He was engaged in the country banking business for a time in Oklahoma, and later was interested in the Stock Yards bank at Denver, but he is not now connected with that institution. His sole business is livestock farming. He studied agriculture at Ames under such pioneers of the profession as James Wilson, who built up the United States Department of Agriculture to its present world dominance as a governmental agricultural bureau, and the late Dr. Seaman A. Knapp, who established the county agent work in the South and to whom that region owes its success in fighting the boll weevil, which at one time threatened destruction of the cotton industry.

It was Mr. Grattan's father, at the time a member of the board of regents of Iowa State College, who was responsible for directing that institution into an agricultural channel, as it had been anything but an agricultural college. John Grattan was one of the students in the days when the idea of scientific agriculture first got a foothold in the land grant colleges. Later, while at Brookings, S. D., he was the first to establish a column of agricultural news in a college publication. He has always written on agricultural topics, and has for many years been known as one of the best posted western farmers on the economics of agriculture. His advice will be of great value to the authorities at Washington, as he has a fundamental grasp of agricultural problems and can bring to bear on them a trained capacity for sound reasoning, supplemented by a lifetime of practical farming experience. Mr. Grattan is a member of the Colorado State Grange, the Farmers Educational and Co-operative Union and an officer of the Colorado Farmer's Congress.

Frank J. Hagenbarth of Spencer, Idaho, has been president of the National Wool Grower's association for a number of years and is known all over the west as a sheep and cattle grower whose operations have always been on a large scale. He was formerly engaged in the cattle business in Old Mexico, but his interests now are entirely in the United States. His services on the advisory board will be particularly helpful in solving the problems of the range men in both cattle and sheep.

A discussion of the livestock war problem, as taken up by the advisory committee at its first conference in Washington, will be found on another page of this issue.

✦ ✦ ✦

A Well Prepared Seedbed

Of course it is easy to blame the seed, or the seed dealer for a poor stand, but is it always just? Don't you know that a lot of good seed put into poorly prepared ground, is hopelessly buried every spring? Surely you do, and next summer you "cuss" the seed dealer. Give the poor devil his due. You will save seed by proper preparation of the soil, and good seed will respond to good conditions. The best seed stands little chance to come up in a cloddy, lumpy, coarse seedbed. Make every seed count this season by starting it off right in a finely pulverized, compact, moist, warm seedbed. Don't give it an excuse to be a slacker.

✦ ✦ ✦

A Childish Proposition

There was some agitation recently in Congress for an appropriation of $250,000 to be offered as prizes to farmers who raise the largest yields of certain staple crops in 1918. Happily nothing came of this movement, which was sponsored by some eastern agricultural papers. The plan had nothing to recommend it. Farmers all over the United States are doing their utmost in acreage and care of crops to get big yields. They are going as far as their means and prospects of labor permit. There are slackers here and there, but these are exceptions.

It was nothing less than childish to presume that money prizes from the public treasury would stimulate the production of food crops. Nothing would have been stimulated except the desire on the part of a few to win the prizes on a limited acreage, handled under maximum conditions. There would have been no gain to the nation or our Allies in the world war. Prizes are given in our boys' and girls' clubs work to stimulate the interest of the young people in agriculture. The adult farmer isn't looking for that sort of "encouragement."

All he asks for is a fair price for his product.

✦ ✦ ✦

True Co-operation

Goodfellowship still clings to many western pioneer communities. This spirit crops out in the letters received from farmers on the subject of lending tools and implements. No matter what abuses some of these writers have been subjected to, they one and all agree that the custom should not be abolished, because a few borrowers out of many have not observed the unwritten rules of neighborly helpfulness. As it is with tools and implements, so it is with other phases of farming, particularly in the districts settled by homesteaders, many of whom came west without capital. As an illustration, here is a news item from the column of Shaw Notes in the Genoa (Colo.) Sentinel:

"Will Chandler is not recovering very fast from the rheumatism. His neighbors gathered and put his small grain in for him—a very good deed."

That little item says a great deal for the spirit of brotherly love and unselfishness.

Sometimes a real tragedy reaches the outer world from the districts where pioneering is still in progress. Not long since two young farmers, brothers, were overcome by fumes from a gas pocket they struck in digging a well near Goodpasture, Colo. One was attempting to rescue the other, and both died at the bottom of the well. The well was on a neighbor's farm, and the news item read:

"It is the practice in the community to exchange labor, and these men were paying back their neighbor for some work he had done in the harvest season on their farm."

It was a deplorable tragedy, but there is some comfort in the thought that these brothers died in the performance of work that exemplifies a kindly spirit of neighborhood co-operation. This trait of the farmers in the newly-settled regions of the American West is a good omen for the future of democracy founded on the principle of true co-operation. If the farmers are able to thus solve among themselves the problems of business as they arise by doing the expedient thing in helpful and economical fashion, they are surely ready for the larger duties that require co-operation with other classes of citizens in the solution of problems of state.

✦ ✦ ✦

First Year of Farm Loans

The Federal Farm Loan System has completed its first year of actual operation. The first charter issued to a Federal Land Bank is dated March 1, 1917, and the charters for the other eleven were issued during that month. Borrowing under the Federal Farm Loan System is done thru national farm loan associations, and the first charter granted to one of these associations is dated March 27, 1917; so that while most of the work of organizing the banks, systematizing their business, appointing and training appraisers and the like had to be done after the end of March, 1917, it may be said that the banks have just about concluded their first year of operation.

Before the system was put in operation it was argued that our American farmers would not organize for co-operative borrowing. The answer to this seems to be found in the fact that up to March 31, 1918, 2,808 national farm loan associations were incorporated, representing about four associations to each five counties in the United States. These associations average about twenty members, representing a total membership of about 56,000 farmers.

The twelve Federal Land banks have received applications for over 120,000 loans, amounting to about $300,000,000. Many of these applications have been rejected, reduced or withdrawn. About 80,000 loans have been approved, amounting to over $160,000,000, and on over 30,000 of these loans money has been paid to the farmers to the amount of about $80,000,000. Many of the loans approved were for reduced amounts, which the borrowers declined to accept.

Notwithstanding the unusual expenses incident to the operation of new machinery and to the appraisement and determination of title on many loans that have not yet been closed, the expense of the banks in doing business has been within such limits as to justify the expectation of the Farm Loan Board that these banks will easily be able to operate on a difference of one-half of one per cent between the loaning rate and the rate which they pay on their bonds.

About Lending Implements

If the letters keep coming in regard to the editorial "About Lending Implements" in the issue of March 1, somebody will have to move out of our columns to make more room. But it is alright; keep it up. The editor is using his evenings to read them and they are intensely interesting, because they throw light on a phase of farming that has never been given any publicity. Following is another letter expressing the views of a farmer, and these views, no doubt, will bring out others who can answer the question originally propounded by a farmer in Arapahoe County, Colorado, who wondered whether he should continue to lend his tools and implements in view of his experience with unthinking and careless neighbors.

Don't Live For Self Alone

I don't very often pay any attention to paper men's problems, as the farmer pays for his paper so let the editor fill it up. But this borrowing and lending question I think is too big a question for the editor alone to answer, so I will try to express my views for the first time to the Western Farm Life. As to answering the question of lending, I will say yes; and as to the borrower I also say yes, and add to that yes, include a liberal supply of common sense.

First we, or at least most of us, do not live for self alone. What would life be if we never did a good turn for a neighbor, or never had a neighbor do us a good turn?

It often happens that the kind act of a neighbor brings a great reward to the one who is helped. I believe in lending and I cheerfully lend any farm tool that is not a geared machine and do it free of charge, but I do think the borrower should return the tool in as good a shape as when barrowed and if he should break it either replace, repair or pay the damages.

When a neighbor gets to where he borrows tools and breaks them or wears them out to any great extent and does not pay for the breakage or depreciation caused while he has the tool, he should cease to be a borrower, and if he doesn't cease of his own accord he should be refused the use of tools by all to whom he applies.

In conclusion let us borrow tools we find necessary to use for only a short time but return them at once when done; offer to pay for the use of them and not try to break a tool because it is not ours and slip away.

Neighbors are never as happy and friendly as when they borrow and lend among themselves with a free good spirit, and be sure and show our appreciation by thanking a friend for a favor, no matter how small a favor it may be. I think one rule will apply to the housewife and farmer alike. Do unto others as you would have them do unto you.—A. L. Mason, Otis, Colo.

The Branding Iron

Applied by Elias M. Ammons

People visiting Washington are complaining bitterly of prices charged at hotels and boarding houses. If prices of wheat and other foods produced by the country folks are to be regulated by the government, Uncle Sam should see to it that his visitors are not robbed when they visit the national capital.

* * *

The threat to grow a smaller acreage of certain crops this season because a satisfactory profit was not realized last year does not exhibit the best kind of spirit in these war times. If unusual conditions interfered with market facilities last season we must not get mad and refuse "to play." There is a better way to win the war. Let us rather correct the errors of the past, make the best of circumstances, and do our best to grow essential food crops whether we make a cent or not.

* * *

The number of cattle in the country cannot be increased by people buying from each other, for the grand total must remain the same. The true solution will be found in saving the calf crop and making a quicker and greater growth.

* * *

Some of the agricultural colleges are advocating the use of horse meat for human food, on the principle, we suppose, that when a horse gets corns, splints and spavins and becomes dangerously collicky, waste may be prevented by taking him to the butcher. So far as we are concerned, we prefer Rocky Mountain canary. Even the absence of the song would not be regretted, and no act of even the cruel butcher could ruffle his placid nature to a feverish heat calculated to produce disease in the consumer. When it comes to eating horse please hand us the juicy drumstick of a Rocky Mountain canary.

* * *

Last year farmers paid unprecendented prices for seed potatoes and help in growing and harvesting the crop. Because of the lack of transportation facilities and other adverse conditions, many growers lost money. This year seed is much cheaper and other conditions promise improvement, but the experience of last year threatens to reduce the acreage the present season. Really, isn't it likely to be a good year to grow spuds?

* * *

The high price of meat has again started a movement to prevent the slaughter of cows and heifers for beef. This is likely to do more harm than good. Many cows are not profitable breeders and are valuable only for food. In every herd there are culls which should not be kept. The owner is the only person who knows which animals should be kept and better results will be attained by allowing him to be the judge.

A Letter from Josephine Putnam

TOM IS LAID UP WITH A SORE FOOT AND HIS WIFE IS SUBBING FOR HIM IN THIS ISSUE

Stove Prairie, Colo. (Bellevue R. F. D. 2).

DEAR EDITOR: Tom is laid up with a sore foot and cain't write, so I'm a-goin' to take his place this time and let you-all know how we're gittin' along. It's been kind-a lonesome up here this winter, specially since we been havin' our spring snows which is comin' tolerably early, and that means a hot, dry summer.

Don't you be expectin' no foolishness in this letter. Tom has got all the foolishness in our family and enough and to spare, so what I'm goin' to set down here in black and white is just facts. I ain't much of a paper woman and don't read much, let alone try to write fur the papers. Back in Missouri it was allus considered among us farmers that the good-fur-nuthin', lazy kind of farmers was the kind that done most of the writin' while the hard-workin', practical farmers done the work. I reckon that's about the way of it and that's why my Tom kin make such a success in his lit'rary work. He's all-fired proud of it, too, and every time he comes home from the mail box with one of them three-dollar blue checks he's as puffed up as a toad. I heard him a-braggin' to one of the neighbors the other day about it. I was in the kitchen, not tryin' to overhear, but him and the neighbor was standin' so close to the house that I couldn't he'p hearin' what they was a-sayin'. Tom sez, sez he:

"Hullo, Brad, gimme your Bull Durham; I want to fill my pipe. Oh, never mind, I thought I left my sack in the house, but here she is."

Then he pulls his baccy outen his pants pocket and with it come one of them blue checks, flutterin' down the ground. He knowed it was thar all the time; I could tell by his movements that he was what you call that war word—camelflageing? Then he stoops over and picks up the check, kind-a givin' a careless like grunt, like as it was too much work to pick up such a little thing, and then he gives a laff and sez:

"By hooky, Brad, I like to lit my pipe with one of them blue bits of paper but I guess I better hadn't. Them little things comes in mighty handy for buyin' thrift stamps."

Of course Brad had to ask what them blue slips was and Tom sez, kind-a off hand, "Oh, them's my checks fur lit'rary work from Western Farm Life. I git space rates."

With that he swells up like a pizened pup and grins, but you'd oughter to seen his grin die out when Brad, innocent like, sez:

"Well, Tom, you don't mean to say they pays you fur writin' that truck!"

It done me good to see him git called down, because if it don't happen to him every so often it's hard to live with the man. I recken most men is that way; you got to keep 'em humble somehow or other.

Last week I told Tom that he'd either got to git down to work on the ranch, or go to the front and he sez: "Josephine, you don't mean to say that they'd accept me at my age?"

"Well," I sez, "I never heard you brag about your age before the war broke out. You allus protended to be a young sport before the government got to lookin' fur men to go to the trenches, but you aged awful rapid after the first draft call."

He hain't been no airthly good fur ranch work since you-all started to pay him money fur this writin' and he's got so now he thinks he's a reg'lar Harral B. Wright or Arthur Chapman and he has dreams about movin' to the desert and doin' his lit'rary work in a tent. I encourage him in it, but when it comes to a show down he usually sez he cain't go alone, because he cain't cook and do lit'rary work too. Soapweed, cactus, and lizzards looks all right to him in his dreams, but when he wakes up he generally finds out that his sentimental longin's hinges on three squares a day and a feather tick to sleep on at night. He loves home comforts about as much as anybody and I ain't afraid of him a-goin' out in the wilds by hisself.

While I'm about it I might as well tell you about his little weaknesses, because I reckon you ought to know what kind of people you have workin' fur you. Tom is very fond of poetry and while he was farm raised, he comes by his lit'rary talents honest. His father was a kind of a combination doctor and preacher. He made salve outen planten leaves and rossum and sold it in little tin boxes on week days to heal men's bodies and on Sundays he tried to save their souls from perdition by preachin' a reg'lar hellfire gospel. People was different in them days. They didn't have more'n two or three reg'lar diseases in Missouri, mostly it was malary or chills and ager and the remedy was quinine in tonic form. Fur burns, sores and outside ailments they used salve or linamint. Tom's father knowed how to make them remedies and he was a good quynine mixer. Bein' doctor and a kind of a minister too, it give the family a standin' in the community so when Tom—or Jeff as they all called him back there—growed to be about 18 and got out of deestrict school his father had him sent down to the institute at Fayetteville fur 8 months where he got his higher eddication; such as bookkeepin', advanced arithmetick and English literature. When he come back from the institute he was so swelled up that I married him to reform him and I undertook a big job that ain't finished yet.

I hope them few facts about his early life will be interestin' to you-all. He ain't hurt bad—just a little sprain—and I reckon he'll be over it in time to write the next letter.

JOSEPHINE PUTNAM.

Breed Heavy Drafters

In conclusion, we can only say from facts now available that the breeding of small horses, under 1,200 pounds, should be entirely stopped, save for such special types as race horses and saddle horses. Mares between 1,200 to 1,500 pounds should be bred to the best available draft stallions, with a view to increasing the size of their descendants to 1,600 pounds and over as soon as practicable, and all mares over 1,500 pounds should be bred to selected draft stallions to make sure that the resulting progeny is as perfect as possible and to reduce the proportion of heavy horses which, because of faulty conformation or unsoundness, are not as efficient in work as their size and weight warrants. Subsidies given to especially perfect draft stallions which have demonstrated themselves to be good stock sires will hasten the improvement of our draft horses greatly, and there is every reason in favor of such a policy. Funds already accruing from stallion licenses should by all means be used, and additional appropriations might well be made for this purpose.

Aside from our own farm and city needs, foreign countries will unquestionably be heavy buyers of draft horses in American markets after the war. Foreign governments are already seeking to obtain an increased number of horses over 1,500 pounds for transport work, with the idea that those which are left can be used on farms at the close of hostilities, and they are especially desirous of obtaining all the heavy mares they can secure. These are significant items to practical horsemen.

No hesitancy should be felt respecting the future of the draft horse industry. Every effort should be made to increase the breeding of all mares over 1,200 pounds to good draft sires, and special attention should be given to encouraging those farmers who, through lack of knowledge of all factors, are discouraged respecting the breeding of heavy draft horses. The man who persists in breeding good ones will reap a rich harvest. The quitter will pay a good price for work animals in the future, and regret that he failed to grasp the opportunity that lay within his reach.—Wayne Dinsmore, in the Percheron Review.

That idle acre is a German missile for an American heart.

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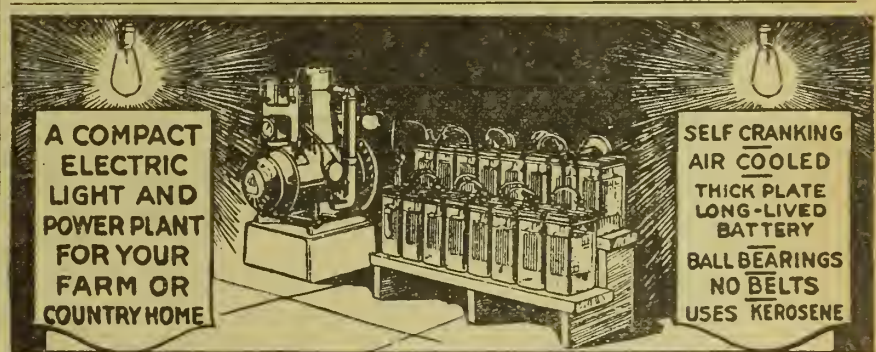

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Delco-Light is a complete electric light and power plant for farms and suburban homes. Easy to operate, economical, very efficient. Runs on kerosene.

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The Everbearing Strawberry

The Everbearing Strawberry plants which are being given as a subscription offer by Western Farm Life come from the farm of J. L. Salladay, in Clear Creek valley, near Denver, who has developed an acclimated Progressive Everbearing strain from twelve plants that came originally from Iowa. This is his fourth season in the work and the original twelve plants have spread out until he now has something like 75,000 plants. A few general hints on setting out and care of the plants are given by Mr. Salladay as follows:

Set out the plants just as soon as possible after receiving them. They will stand most any sort of rough spring weather, but in case it is too cold or snowing, they can be kept in the package a few days, if kept damp and cool. Do not let them dry out or keep them in a warm place which may start growth.

Mr. Salladay sets them two feet apart in the row and with rows three feet apart, under field conditions. It is not necessary to space them so widely, if planted in gardens. They may be set a foot apart, with two feet between rows.

Mr. Salladay's advice regarding the runners and blossoms does not agree with that of some other authorities, who advocate picking off the blossoms that appear during the first six weeks. He does not interfere either with runners or blossoms, except to train the runners to the row. He does not favor mulching with straw, as he says that practice is more apt to smother plants than to protect them.

If it is planned to produce berries under light rainfall without irrigation mulching with clean straw aids in holding moisture to the plants. If they are to be irrigated, however, do not mulch.

It is important to hill them up. When planted flat and then irrigated the water will depress the plants and finally the crown will become covered, resulting in the death of the plants. Hill up and then water between the rows so that the water reaches the roots. Strawberries will stand a lot of water to keep them growing rapidly, but they can also be successfully handled by dry farming methods. Most any dry land farmer, however, has a windmill available to pump water enough to cover his garden. The results will pay for the trouble. This is true of all garden truck and not of strawberries alone.

The Salladay strain of Progressive Everbearing has a superior flavor, as well as good size and fine appearance. The fact that it has been developed at 5,400 feet, under Colorado conditions, fits it for planting in the high altitude country.

Last October this section experienced the hardest freeze that has been recorded during that month since the weather bureau was established in Colorado. The ground temperature in the Clear Creek valley was 10 degrees below zero. In Mr. Salladay's berry field the ripe fruit froze and the blossoms froze, but the green berries remaining on the vines later ripened and he still had sale for them as late as the middle of November. Even on Christmas day, when he entertained some soldier boys from Fort Logan, ripe berries were found in the field, which the soldiers picked and sent to eastern relatives as an evidence of Colorado's salubrious winter climate—and the hardiness of the Everbearing strawberry.

How Deep Plowing Pays

Does it pay to plow deep? This question was put to S. T. Horn, a Briggsdale farmer, who called at the office of Western Farm Life recently, to renew his subscription and get another copy of E. R. Parsons on Dry Farming. This is the answer:

"I have certainly found out that it pays. My farm is in Weld county, about 18 miles northwest of Briggsdale. I have a light sandy loam soil. I have been studying Mr. Parsons' writings a number of years and following his advice as closely as I could. In 1911 I plowed a field for alfalfa, using a borrowed 30-inch disk, pulled by a six mule team. Most of the work with the big disk was done 12 inches deep; none of it was shallower than 7 inches. Before I had quite finished I had to return the disk to the owner and finish a spot in the middle with a small disk that would not go down. The deepest plowing in the center spot was seven and most of it was less than seven inches.

"The following season I cut three good crops of alfalfa from the deep plowed land and hardly got one good cutting from the spot in the center which was plowed shallow. The same condition continued in the shallow spot, season after season. The alfalfa never did well there. Last year that field was in beans and the effects were still apparent in the lighter stand of beans in that particular place.

"People, in looking over the alfalfa, asked me what was the matter with the soil there, but I could show them that there was not the slightest difference; that it was only a matter of failing to properly plow the ground in the first place. Deep plowing is the first essential of dry land farming and you can say for me that Mr. Parsons knows what he is talking about."

"Speeding up construction of good roads is an integral part of government war work. Efficient transportation is necessary to reduce the margin between producer and consumer."—U. S. Food Administration.

Statistics being collected by the Colorado State Board of Irrigation show that there are more than 3,100 public schools of all classes in the state, employing 5,973 teachers. The average annual cost of education in the public schools, based upon school enrollment for the year ending June 30, 1917, was $43.83, and the average cost based upon attendance was $63.71.

From Actual Photo of One Plant

SCHROCK KAFFIR

SCHROCK Kaffir-Sorghum is given a splendid record by U. S. Department of Agriculture for drought resistance, heavy yield and freedom from midge. Unlike the other grain sorghums, the seed will germinate readily even when the ground is cold—an advantage in getting early forage and ensilage for silos.

60 to 70 Bushels to the Acre

Every farmer who has planted Schrock-Kaffir is surprised and delighted. Not an experimental crop—seeds do not shatter—does not heat in stack, and makes fine leafy hay. Black birds will not bother it in the fields. Get the genuine "Sea-Gull Brand."

Free Book. Write at once for our big free book, illustrating and describing field and garden seeds of all kinds. Tells the strange story of Schrock Kaffir-Sorgum, which was brought to this country by sea-gulls.

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—that's what thousands of farmers say, who have gone from the U. S. to settle on homesteads or buy land in Western Canada. Canada's invitation to every industrious worker to settle in Manitoba, Saskatchewan or Alberta is especially attractive. She wants farmers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops to feed the world.

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or other lands at very low prices. Where you can buy good farm land at $15. to $30. per acre that will raise 20 to 45 bushels of $2. wheat to the acre—it's easy to become prosperous. Canadian farmers also grow wonderful crops of Oats, Barley and Flax. Mixed Farming is fully as profitable an industry as grain raising. The excellent grasses, full of nutrition, are the only food required either for beef or dairy purposes. Good schools and churches, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. Immigration, Ottawa, Can., or to

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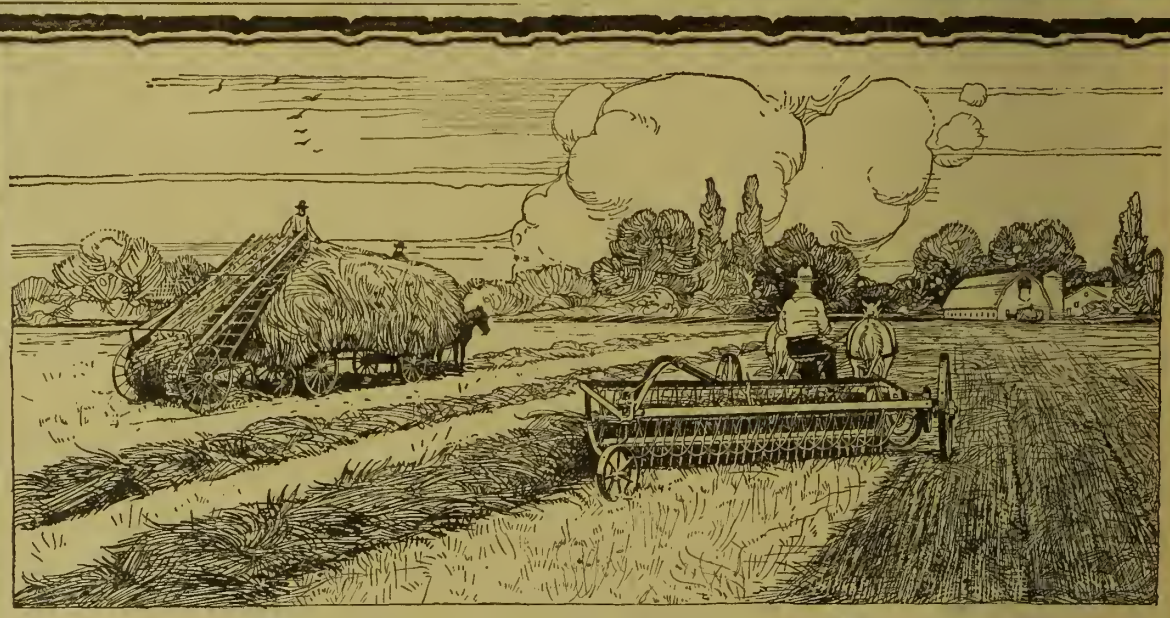
160 ACRE FARMS IN WESTERN CANADA FREE



Speedy Haying and Finest Hay When Help is Scarce and Time is Short

WHEN the haying rush comes on this season, a good deal of hay money is going to be lost on many farms—and saved on many other farms—in the short space of a few weeks. A very few days' delay, a rainy day or two, poor curing facilities, and hay values vanish like magic. Everything depends on haying machine preparedness. Will you be ready for haying?

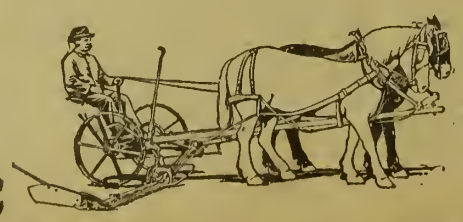
Good hay is made in fast time with little help, year after year, on farms equipped with mowers, rakes, tedders, side delivery rakes, loaders, etc., sold by International Harvester dealers.

Champion, Deering, McCormick, Milwaukee and Osborne Mowers, Dump Rakes and Tedders have been too long and favorably known on forty million acres of hayfield to need description.

Every hay grower should become familiar with the construction of the new International, Keystone and Osborne Combined Side Delivery Rake and Tedder. This popular, economical machine has two duties in one—it can be instantly adjusted for rake or for tedder. It rakes clean, teds thoroughly, and handles hay gently. It is a left-hand-delivery rake, which means it can follow the mower closely and strike the heads first (not the stems). It does clean work, piling two swaths at once on the clean stubble (not on an unraked swath), which means proper curing. Quickly adjustable to any condition of hay and ground.

International, Keystone and Osborne Windrow Loaders are built to last. Pulled easily by two horses, they load uniformly, leave the field clean, lift hay over 10 feet, do not thresh off blossoms and leaves. Sold with or without forecarriage and are released easily from top of load.

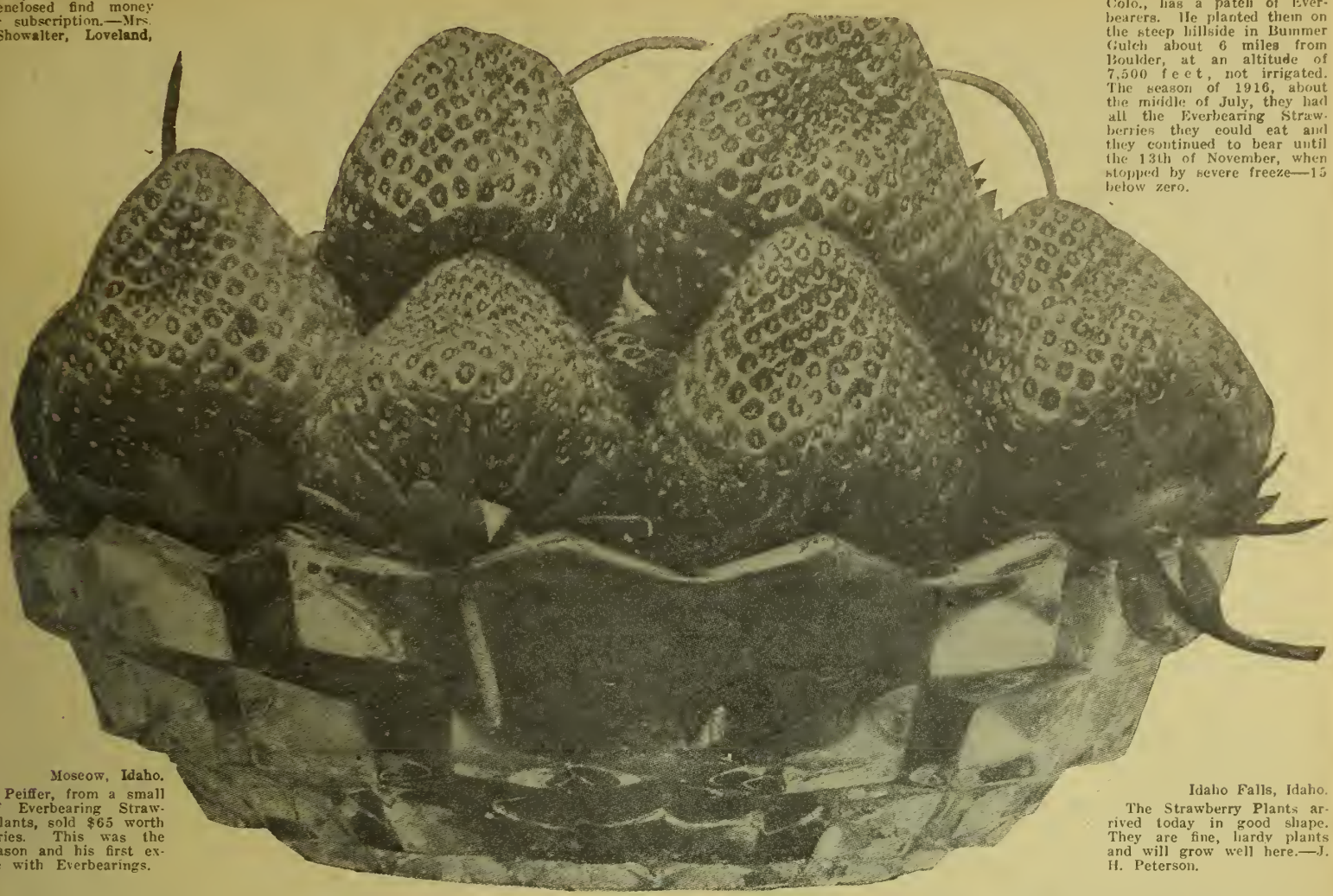
Hay values are high. These tools, which put hay under cover in prime condition four or five hours after cutting, return their price, and more, to your pocket. The International Harvester dealer can furnish you with proper sizes and types and special equipment. (The lines include also sweep rakes, stackers, and combined sweep rakes and stackers.) WARNING: This is a year of big demand for machines, scant supply and handicapped shipping. Act early and be certain. See the dealer—write to the address below for folders.



International Harvester Company of America
(Incorporated)
Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont. Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah San Francisco, Cal. Spokane, Wash.

Received plants in fine condition; enclosed find money order for subscription.—Mrs. F. H. Showalter, Loveland, Colo.

B. Blidmuth, Boulder, Colo., has a patch of Everbearers. He planted them on the steep hillside in Bummer Gulch about 6 miles from Boulder, at an altitude of 7,500 feet, not irrigated. The season of 1916, about the middle of July, they had all the Everbearing Strawberries they could eat and they continued to bear until the 13th of November, when stopped by severe freeze—15 below zero.



Moscow, Idaho.
Saul Peiffer, from a small plot of Everbearing Strawberry plants, sold $65 worth of berries. This was the first season and his first experience with Everbearings.

Idaho Falls, Idaho.
The Strawberry Plants arrived today in good shape. They are fine, hardy plants and will grow well here.—J. H. Peterson.

I Want Every Reader of Western Farm Life to Plant a Patch of Everbearing Strawberries This Spring. I Will Furnish the Plants FREE

EVERBEARING strawberries are the small fruit for both the irrigation and the dry land farmer. For two or three years I have been watching the development of the Everbearing Strawberry, and I am now ready to recommend it as the answer to the long-felt need for a sure and good fruit plant for the garden of the Western farmer and ranchman. The plants I furnish you free will supply you with big, luscious strawberries all this summer and fall—not only this year, but for five or six years to come.

The Everbearing Strawberry plant is just what the name implies. When set out in the garden in the mountain states it will commence to bear a heavy crop of fine, red, deliciously flavored strawberries the last of July, and continue on thru August, September and October until stopped by severe freezing weather.

The Everbearing Strawberry has a wonderful root system which adapts it to the farms of the mountain states. Often the roots go into the soil to a distance of a foot and a quarter. The roots thus get down into the moist soil and enable the plants to produce fine, large berries right along during the hot summer weather. The plants are very hardy and the blossoms will stand a light spring frost without injury. Should a heavy enough frost occur to kill the blossoms of the Everbearing Strawberry plant, it will only put your crop off a little longer, for the plant will come right out again as full of bloom as before. No other berry can equal it. No other is so dependable. No other surpasses it for the Western farmer.

In my judgment every Western home owner should plant a bed of these delicious strawberries. A single bed should yield about 50 pints. A double bed, 150 pints.

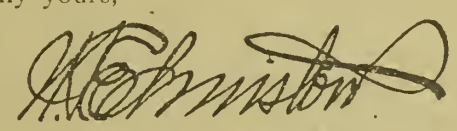
I have made a deal with a Colorado grower so that I will be able to supply plants sufficient for 20,000 double beds—so that Colorado farmers and ranchmen can get these Everbearing Strawberry plants free by merely extending their subscriptions either two years or five years. I have secured these plants so that I can give a sufficient number for a single bed (7½ feet wide by one rod long) to those that desire to renew for two years. Sufficient plants for a double bed (one rod square) to those that renew for five years. The subscription price is **two** years $1.00, five years $2.00. **No money down.**

Send no Money.—Fill out the return card inclosed in this copy of Western Farm Life and mail at once. I will have your plants securely packed with full instructions as to planting and care, and have them sent you immediately by prepaid parcel post all ready to set out—**FREE.**

Try a bed of Everbearing Strawberries this Spring. Fill out the enclosed card—**Now.**

Respectfully yours,

P. S. The Progressive Everbearing Strawberry plant multiplies very rapidly. The plants which we send you will give you such a start that in a year or so you can have just as many strawberry plants and just as big a strawberry patch as you desire. Last spring we purchased 35,000 of these plants for our readers from a Colorado grower who secured his start four years ago with only twelve plants.



General Manager Western Farm Life.

75 PLANTS FREE

With a Club of Only Four Yearly Subscriptions to Western Farm Life

If you will get three of your friends to give you 50c each for a year's subscription to Western Farm Life and send this with your own 50c subscription (making $2.00 in all), we will send you 12 Progressive Everbearing Strawberry plants for each of your freinds and 39 plants for yourself—75 plants in all. If our own subscription is paid ahead and you do not care at this time to extend it further, you can get four of your friends instead of three to subscribe. The 75 plants will be sent to you by prepaid parcel post, and you can divide them up to suit yourself.

Don't delay. Take your copy of Western Farm Life and show it to several of your neighbors. Tell them of the many helpful and interesting articles it contains each issue. They perhaps are not taking a Colorado or Western farm magazine and will be glad to have you send in their subscription. The plants we send you will be worth many times your trouble, not only this year but several years to come. Why not see or phone some of your friends right now—today?

GET VIGOROUS, HEAVY BEARING PLANTS

In choosing the plants to send you we were very careful to see that they were an unusually hardy variety—a variety that is especially adapted to the Rocky Mountain States. There are several kinds of Everbearing Strawberries; the progressive Everbearing is the one variety that is especially adapted to conditions here in Colorado and the mountain states. We guarantee every plant we send you to be a genuine progressive Everbearing. Our plants produce a dark red berry. They are large, well shaped, and of most excellent flavor, much better than the ordinary varieties. The plant is a strong grower and makes runners freely. Fruits heavily on new runners within four to six weeks after they are rooted. The Everbearing Strawberry produces a crop of big, red, delicious strawberries the first season. They continue to grow, multiply and bear heavy crops for five or six years.

OUR BIG PLOT OFFER—SPECIAL. We will send 150 plants, enough to set out a piece of ground a little over two rods square. This should produce about 175 quarts of berries with a market value of at least $35.00. These 150 plants are free with your ten-year extension subscription to Western Farm Life. The ten-year subscription is only $4.00.

The Meat Production Problem

FARMERS ADVISORY COMMITTEE'S RECOMMENDATIONS

WHOLESOME and practical recommendations regarding the meat production problem were made to the United States Food administration and the Department of Agriculture by the farmer's advisory committee at its first conference recently in Washington. As will be seen by reference to the editorial page of this issue, the mountain states have, as representatives on this committee, a Colorado and an Idaho farmer, namely, John Grattan of Broomfield, Colorado, and F. J. Hagenbarth of Spencer, Idaho. The recommendations of the committee covered many topics, including the wheat question, on which it was the opinion of the farmers that the price of $2.20 fixed by executive action for the 1918 wheat crop, was satisfactory. Lack of space prevents giving details on any except the meat production recommendations, which are as follows:

Cattle are marketed in the following great divisions:

1. Stockers and feeders;
2. (a) Grass fat pasture cattle;
   (b) Grass finished cattle meeting the requirements for live export;
3. Short fed or half finished cattle;
4. Long fed or export and highly finished cattle;
5. Thin cattle, commonly known as "canners."

We recommend that the Department of Agriculture should devise a standard system of market grading for livestock, as well as of meats, and that price quotations for both livestock and their products be based on such standards. We feel that cattle marketed at the present time in class four, and known as "exports," owing to the high costs of labor and feed, are not an economical product and their production should not be encouraged.

Whereas, the lack of ocean shipping facilities has resulted in an accumulation of supplies of meats of all kinds which are needed and could be easily absorbed by the present home demand if unrestrained by regulation of consumption, we heartily endorse and commend the action of the food administrator in suspending "meatless day" for a period of thirty days, and we are of the opinion that suspension should continue until such time as military and civilian needs of our Army and the shipping facilities necessary to supply these needs make it advisable as a war measure to conserve home supplies.

* * *

Wide, uncertain and unexpected fluctuations in market prices of livestock have been a fruitful source of loss and discouragement to the producer. Costs of production, volume of supplies, and demands of consumption do not appear to be the sole factors entering into the price question. On the contrary, market manipulation can often be held accountable for price fluctuations. From the mere fact that supplies of livestock may come to market in large volume on certain days or weeks, it does not necessarily follow that there exists fundamental over-production of such supplies thruout the land, nor a necessity for lower prices, based on lack of consumptive demand. Prices for market products theoretically should be based on the total volume of supplies available for market as disclosed by disinterested and accurate government statistical information. Thereafter the only legitimate influence in prices should be based on the volume of demand.

Stability of prices is a necessary adjunct to steady production. We therefore suggest that on occasion when supplies of livestock reach the market in temporarily increased or seasonably increased volume, that, at least during the period of the war, the Food administration shall cause increased purchases to be made, and that such increased purchases shall be held in storage for the double purpose of covering periods of decreased and insufficient market supplies, and of creating a reservoir of supplies from which to draw in times of emergency.

While we neither forget nor condone past offenses of the American beef packers, but upon the contrary, insist on discontinuance of all forms of market immorality, we none the less, advocate constructive rather than destructive practices in dealing with these great agencies of internal and international commerce. We recognize and cheerfully concede the fact that the packers may and should occupy a position of distinct economic advantage to the country, in that their capital, extraordinary facilities for manufacture and distribution of meats, meat products and by-products, coupled with long experience and highly developed efficiency, should enable them to find markets and carry on distribution at home and abroad at a minimum average net cost of doing business.

In order that the exceptional equipment of these great organizations may yield a maximum service to the country on terms fair alike to themselves, as well as to producers and consumers, we are of the opinion that government supervision and control should be continued and extended in a business like manner, and that any unreasonable margin of profit standing between producer and consumer should be located and eliminated. We are further of the opinion that neither government operation nor government ownership is practical and advisable at this time.

The Western Farm Family Can Be Self Supporting

(Continued from page 3)

many of the farmers crush their own amber cane, and make sorghum molasses which they use for all sweetening purposes.

The natural substitute on the dry farm is honey. The honey flavor is hardly noticeable in coffee, and is rather enjoyed by those who use it, and for hot cakes and biscuit it is often preferred to sugar syrup.

On the prairie, when pasturing only the wild flowers and prickly pear blossoms, a hive of Italian bees will often make from 25 to 50 lbs. of honey during the season. Where alfalfa fields are within reach they may make as high as 100 to 200 lbs. In the foothills they make more than on the prairie, where dependent entirely on wild blossoms. The farmer can often obtain his sugar from his neighbors' fields by simply buying a swarm of bees.

Before dry farming was understood and recognized as a payable branch of agriculture, the homesteader was considered as a man who was taking desperate chances as to feeding and clothing his family; but a little knowledge has changed all that, and not only the yields are increasing but also the prices of his crops and the successful dry farmer of today who follows modern methods lives comfortably and keeps a car.

Financing Tractor Purchases

Federal reserve banks are to rediscount notes secured by farm tractors, the United States Department of Agriculture announces. Instructions have been issued by the Federal Reserve board to all federal reserve banks authorizing them to rediscount tractor paper presented by any member bank, provided it has maturity not exceeding six months and the tractors are purchased for agricultural purposes. This action of the Federal Reserve board, explains the department, means that notes given for farm tractors will be treated in the same manner as other agricultural paper, thus making it easier for farmers to obtain tractors where needed.

Ukraine stocks of wheat amount to approximately 48 million bushels, according to information reaching the Food administration. The north ports of Russia, however, are bare of supplies and the past winter has been very unfavorable to agriculture.

MUD!

—it gets in your ditches —then grass grows and refuse piles up — and then your ditch is hard to clean with plow and shovel. The job is easy with

Cut shows Model 20, made in 2, 4, 6 horse and tractor sizes. Makes new ditches, cleans old ones, to 4 ft. deep.

THE Martin OD&GCO

DITCHER AND GRADER

FINE FOR GRADING, TERRACING AND DYKING

Does the work of 50 men and does a better job. Is simple, practical and efficient. No wheels or gears. No repair bills. Fully illustrated catalog with prices and list of users near you free. Write for it today.

OWENSBORO DITCHER & GRADER CO.
1572 Wazee Street Denver, Colorado

FIRST Get Galloway's 1918 Book

Look over this helpful money-saving Spring buying guide, where every page is a bargain.

Before You Buy a Separator, Engine, Spreader or Tractor

Contains the implements you need at money-saving prices. Galloway proves one price is all that you should pay. Galloway's prices are the lowest for the best implements.

BUY DIRECT—SAVE MONEY!

Buy from Galloway and buy from the maker. This plan and tremendous business make my prices so low when compared with the best grades sold the other way. I sell right from the factory floor at the very lowest factory price. WRITE TODAY! Write at once, a postal will do, and ask for Galloway's 1918 book. It will save you many hundred dollars on supplies. Write today.

WM. GALLOWAY COMPANY
Box 1827 Waterloo, Iowa

SEED CORN

OF HIGH GERMINATION

WE HAVE GOOD STOCKS OF

Colo. Grown Swadley
Colo. Grown White Australian
Colo. Yellow Dent
Parsons White Dent
Improved Leaming
Pride of the North
Minnesota No. 13
King of the Earliest
Calico
Bloody Butcher
Red Cob Ensilage
Eureka Ensilage
Silver Mine
Blue Squain Corn

All Carefully Tested and Showing High Germination

Let us send you samples and quote prices. We have stock that we know will please you

The Burton Seed Co.

1500 Market St. DENVER, COLO.

Denver The Live Stock Market

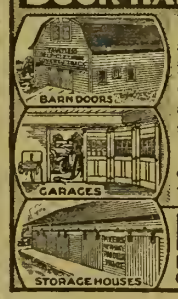
Denver is the Highest Market **Most of the Time** and the Best Market **All the Time** for Western Cattle and Sheep.

Time and again cattle have sold on the Denver market for higher prices than the same cattle would bring same days at the Missouri River.

Why don't you market your cattle and sheep at Denver, where they will bring you greatest net returns?

TWO CENTS-THE COST OF A POSTAL CARD BRINGS THIS DOOR HANGER CATALOG TO YOU.

MYERS



Do you still push and tug, and perhaps swear occasionally at some balky, weatherbound, off-the-track door? Can't budge it to save your life. Do away with this unnecessary trouble by equipping all of your buildings with MYERS "Easy to Push and Pull" Sliding Doorways, and have uniform door service the year through.

Our CATALOG tells you how and shows Twelve Styles of MYERS DOOR HANGERS for all kinds of sliding doors. Write for it today.

F.E.MYERS & BRO.
No. 140 ORANGE ST. ASHLAND, OHIO.

You Need a Magnifying Glass

to see the seams and pores of an axle. They're too small to see but they're big enough to cause friction trouble. Use

MICA Axle Grease

on your axle and prevent friction. It is made of the finest grease stock and powdered mica. It fills the pores and gives the axle a bright, hard coating.

THE CONTINENTAL OIL CO.
(A Colorado Corporation)
Denver Pueblo Salt Lake City
Cheyenne Butte Albuquerque Boise

Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

A Permanent Whitewash

Will someone tell me in the column of questions and answers if there is any kind of whitewash to use on old houses that will remain on as long as paint. I have read the formula for the government whitewash, but would prefer something more simple—A Colorado Inquirer.

Ans. Following is a formula for a weatherproof exterior whitewash that is said to be almost as permanent as paint:

(1) Sixty-two pounds (one bushel) quicklime, slake with 12 gallons hot water.

(2) Two pounds common table salt, 1 pound sulphat zinc, dissolve in 2 gallons boiling water.

(3) Two gallons skimmed milk.

Pour 2 into 1, then add milk (3) and mix thoroly.

NOTE: Alum added to lime whitewash prevents it rubbing off. An ounce to the gallon is sufficient. Molasses renders the lime is more soluble and causes it to penetrate the wood surface and is, therefore, a help in whitewashing old buildings.

Homestead Absence Privilege

Will you kindly tell me on what date the law enabling homesteaders' leave their places to work on other farms was passed? There was something about it in your issue of March 15th but did not say when it was passed. We have lived on our homestead for two years but the survey was not approved until lately. The land was opened for filing the first of February. We filed about the 20th of February and would like to know if we could leave to work on other farms this summer. We have just taken our five months leave of absence.—T. M., Conejos county, Colo.

The law was passed. Dec. 20, 1917. Yes, you may leave your claim to work on other farms. The privilege of such absence may be exercised by any person who had made a valid settlement on public land before December 20, 1917, or who has made, or shall make, entry pursuant to application filed before that date. There is no limit either to the number or the length of the absences a homesteader may have under this act. They do not in anywise interfere with the five-month absence privilege accorded by law to the homesteader during each residence year, pursuant to notice and without reason stated, but the periods thereof are to be regarded as forming part of the seven months' residence ordinarily required.

Each person intending to avail himself of the privileges of this act must, within 15 days after leaving his homestead, file at the local United States land office a notice that he has left the land, pursuant to the provisions of said act, for the purpose of performing farm labor elsewhere. On or before February 1 of each year he must file at said office a written statement under oath, corroborated by two witnesses, with regard to such absence or absences during the last preceding calendar year. Said statement must contain the date or dates when he left the claim and the date or dates of his return thereto; also the name or names of the places where he was engaged in farm labor during the period or periods of his absence and the name or names of the persons for whom said labor was performed. Unless he complies with these conditions, he will not be entitled to the benefits of the act. The act does not excuse a homesteader from full compliance with the law with respect to cultivation of his land the erection of a habitable house thereon.

Partition Fence Law

Ans. to N. L. E., Adams county:

Following is a paragraph from the state law relating to partition fences:

"Where the lands of two persons adjoin and both persons shall occupy the land either for pasture or farm purposes, it shall be the duty of each party to build one-half of the line fence. * * * and that where one party shall have already erected legal fence as herein defined upon any line between himself and any other party, and the other party wishes to occupy the land adjoining it shall be his duty to either build one-half the said legal fence, or pay the party owning said fence one-half of its cash value."

You will note from the above that A and B must share in the cost of erecting the fence. If either party fails to comply with the law the other party can have the entire fence erected and collect for cost of one-half by an action at law.

This provision hinges upon whether the respective parties are occupying the land for purposes requiring the fence.

Dissolution of Partnership

Ans. to inquiry from L. L., Custer county, Colo., regarding partnership arrangement in conducting ranch operations:

Assuming that there was partnership, the inquirer's only remedy is an action in equity for an accounting and dissolution. Partners may not sue each other in the law courts, for the reasons that it presents the anomaly of a man being plaintiff and defendant in the same action. The accounting in equity reaches the whole matter. He can show the desertion of the partner amounting to a dissolution and then, by decree, have the court set out to him what rightfully belongs to him.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver, Colo.

Holding Wheat Aids Enemy

Since wheat exports must be maintained if the war is to go on—and we must go on or go under—the Food administration has taken the position that refusal to release wheat gives aid and comfort to the enemy and that seizure is jutifiable. On these grounds the Federal Food administrator of New Mexico was authorized to seize and place in circulation 100,000 pounds of wheat grown by the Kempernich Brotbers, farmers and storekeepers, and a further store of 250,000 pounds which they had purchased and refused to release from storage. The wheat was then given up and will be distributed.

Colorado's Cultivated Acreage

Reports from all the counties in the state, collected and compiled by the State Board of Immigration, show that the amount of land cultivated in Colorado in 1917, exclusive of that devoted to orchards and small fruits, was approximately 4,122,800 acres. This is the first time such data has been collected by counties since the 1910 census, which made a complete compilation of agricultural data for the state for the year 1909. The acreage cultivated then was 2,614,312. The increase in acreage since that time has been approximately 53 per cent and in value of output more than 100 per cent.

Statistics furnished by the government show that barley has not increased in price paid to the farmer as much as wheat. Inasmuch as the same machinery is used in making both wheat and barley flour there is no excuse for selling barley flour for twice the price received for wheat flour.

WITTE Kero-Oil ENGINES

Immediate Shipment

2, 3, 4, 6, 8, 12, 16 and 22 H-P.—Direct from the Largest Exclusive Engine Factory in the world, selling by mail. Nothing but engines. Quick Service—Big Saving—90 Day Trial, 5-Year Guarantee. Fuel cost one-half less using kerosene. Write for new book (copyrighted) "How To Judge Engines", printed in colors and fully illustrated, showing how I can save you $15 to $200—sell you on practically your own terms—Cash, Payments or No Money Down.—Ed. H. Witte.

WITTE ENGINE WORKS

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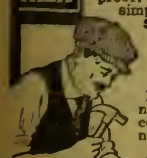
NAIL THEM

You Can't Puncture 'em



Service Tubes are like other pneumatic tubes, except they're puncture proof. Drive right over tacks or nails; simply pull them out. No leak! With Service Tubes you can travel

6,000 Miles Without a Leak!

Inflate as usual. Tire guarantees not interfered with. Service Tubes cost only few cents more than ordinary tubes. Shipped prepaid on approval. Write for complete Tire and Tube Catalog. State size used.

SERVICE AUTO EQUIPMENT COMPANY
891 Traders Building,
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CANNING OUTFITS PAY FOR THEMSELVES

Be Economical! Be Patriotic! Let your garden pay for most of your next winter's living.

BUTLER CANNING OUTFITS

Are simple, economical, practical. Operate easier and quicker than old-fashioned methods. Made for home, club or commercial use. Many were disappointed in not getting an outfit last year. Expect bigger demand this season. Be safe, investigate now. Write nearest factory for free catalog and prices. Good Deal for Live Agents in Open Territory.

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698 BUTLER BLDG, Kansas City, Mo.
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Veterinary Instruments
Abdominal Belts
Invalid Chairs, Crutches,
Sick Room Supplies
Write today for measurement blank
The J. Durbin Surg. Supply Co
1508 Curtis St., Denver, Colo

IDEAL Heating

Improves Property

Spend money for *permanent improvements* to your house and get the comforts and enjoyment that your present prosperity entitles you to. Land values have increased about 100% in the last five years. *Is your home modernized to keep up with this increase in value?* Do you still shiver in a drafty, damp house with old fashioned methods of heating?

IDEAL heat is best economy

There is no use trying to make yourself believe that wasteful, old fashioned heating is economy—for how often do you hear of it resulting in illness, overwork and discouragement?

AMERICAN RADIATORS & IDEAL BOILERS

Heat the whole house with *least* fuel—burn the cheaper fuels of your locality. IDEAL Boilers will do it and are scientifically made to extract the *greatest heat* for warming the whole house like one room.

IDEAL Boilers and AMERICAN Radiators never wear or rust out—they last longer than the building and are the far sighted investment for family health and comfort and conserving fuel.

Easily put in any farm house

IDEAL Boilers and AMERICAN Radiators come in sizes to fit any cottage or farm house. Cellar or water pressure not necessary. Thousands of farm houses are so equipped. Cut down the work in your household and give your family IDEAL heating with its fuel savings and cleanliness.

An IDEAL Boiler and American Radiators heat this Farm Home, saving fuel every year and giving the family a mild, balmy temperature in all weathers—thousands like this in every State.

Write for complete catalog free. "Ideal Heating" is full of pictures and information telling all about radiator heating. Get it at once—no obligation to buy.

Sold by all dealers. No exclusive agents

AMERICAN RADIATOR COMPANY

Write to Department F-27 Chicago

Boys and Girls Earn a $5 War Saving Stamp

I am going to make it possible for every WESTERN FARM LIFE boy and girl to have a $5.00 War Saving Stamp for their very own.

It will take a little work. But will be easy once you get started. It will be only necessary for you to see a few of your friends and get them to renew or subscribe to WESTERN FARM LIFE. This is just how easy I am going to make it for you.

For each 75 cents you collect on new and renewal subscriptions I will send you a 25 cent Thrift Stamp. You can secure subscriptions and renewals for WESTERN FARM LIFE at the following rates:

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6 months subscription	$0.25
1 years subscription	.50
2 years subscription	1.00
5 years subscription	2.00
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Here is the big offer. Remember that for every 75 cents you send me for subscriptions I will send you a 25 cent Thrift Stamp. Now, when you have earned 14 Thrift Stamps or $3.50 worth, mail them in to me and I will send you by return mail a $5.00 War Saving Stamp. Did you ever have a better or more liberal offer made you? Besides all the time you put in you will be working for Uncle Sam. YOU'LL be truly a soldier of Thrift. Start today, and then see how easy it will be for you to get your Thrift card completed. It will only take a few days, working after school, to earn your $5.00 War Stamps. If you want more information as to how to get subscriptions I will gladly help you. But send in one or more subscriptions at once, and I will send you a receipt book, and a 25 cent Thrift Stamp for each 75 cents you enclose.

W. S. EDMISTON
General Manager
WESTERN FARM LIFE

Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Now is the time, it seems to me, for producers of livestock to take account and make plans for next year. During the coming months, with cheap grass, it is not much of a problem to carry our livetsock in most sections of the state, but we might as well begin now to realize that next fall will come again the pressure of high prices for feed stuffs and the ever-recurring question whether it would not be advisable to quit dairying, or hog raising, or beef production, and take profits on the crops themselves, instead of feeding the crops to livestock with a precarious market, due to war time conditions.

The reason I want stockmen to be thinking along this line now is because we cannot think clearly when the pressure comes too hard on us. We must adopt a definite policy in advance, taken deliberately in full view of the needs of our country in time of war, and of the difficulties that we shall encounter. We cannot answer the question satisfactorily, if we decide in view of a temporary market condition instead of a permanent war time policy. When I hear men saying that they have put in wheat on beet ground because it will make them more money, and advancing no other argument, I am inclined to question a little their true patriotism or their clear thinking. Wheat may be needed as much as sugar, but if a man revolutionizes his entire crop acreage in order to go after some special crop, and everyone else does the same thing, no one can tell in advance what yields of certain crops will be forthcoming, and the entire feed supply calculations of the nation may be overturned. The same argument applies to the producers of livestock and dairy products.

I am not arguing that a man who is so situated that keeping livestock in the face of a falling market will mean extreme financial straits and possibly ruin to him to keep on with that livestock, but I do maintain that a man who is making a profit on his livestock, no matter how small, should stay by his normal production or increase it, if he can, and when reverses in the market come, he should not immediately dispose of his stock in the belief that the unfavorable market is permanent, but should be willing to take the bad with the good, remembering that even if there be a temporary loss from the livestock marketed, he still has left for his farm the fertility which they created, and he will have just that many more bushels of grain or tons of sugar beets or potatoes to market as his cash crop. The man who probably will be most unfavorably situated, will be the one who has no cash crop aside from his livestock or dairy products, and if he is operating at a loss, the fact that he gets a larger tonnage per acre on account of his livestock means nothing to him, as that tonnage goes back into the livestock, continuing to net him a loss.

The method that seems to me most sane to adopt in these times of rapidly shifting conditions, is to diversify considerably. I have always been an active opponent of the special crop system in a community where the bulk of acreage on a farm is given up to that special crop, so that if that crop fails or is unmarketable, the owner stands for a heavy loss. If a man carries his livestock as a part of a diversified system of farming, using the manure upon a field from which he will take a cash crop, which will go to market direct instead of being fed to livestock, and will put quite a share of his feeds into the growing of young stock that will be marketed next year or the year after, he will not suffer so much from sudden or disconcerting changes in the market. He will be able to continue with livestock in something like the normal amount carried on his farm, and he will be doing a service to his country far beyond the vision of a man who gets out from under by selling his livestock after a few weeks of unfavorable market has discouraged him.

The man who is at home on the farm must use his head these days just as actively as the man who is in the trench. If the soldiers who are now on the front should simply figure that the day is lost because there are two or three Huns facing every one of them, then we could count the war lost; and if the producer of livestock should take the same attitude that he must quit livestock because he has a loss staring him in the face under his usual conditions of production, then I am afraid that in some lines of livestock production, notably dairying and hogs, we shall be obliged to face marked diminution of production next year, in fact, such a reduction in beef cattle is already apparent on our western slope. The grower of livestock must use his energies and his brain to get himself out of the hole caused by market conditions in some other way than by quitting livestock production, just as the soldier must get himself out of his difficulty in some other way than be quitting the trenches. It is very decidedly up to the stockmen of this state to plan ahead very carefully, and adopt new methods where necessary. I have no fear for the coming summer, fall, and winter. Our total livestock production will come up to expectations, but I am looking ahead with anxiety to next winter and next year. Nobody knows how long the war will last, but I find that very few thinking men are at all hopeful that it will be over in less than two years more, and now is the time to lay our plans for next year.—G. E. Morton.

British Drop Holstein Name

The name Holstein has been officially dropped from the British breed organization which is now known as the British Friesian Society. The Holstein-Friesian Association of America has been informed of this action

GEHL Silberzahn

LIGHT RUNNING SILO FILLER

A practical, all-purpose cutter that requires less speed and power. Not only fills silo but with wonderful GEHL attachment makes alfalfa meal and does equally fine work on pea vines, soy beans, etc. 27 years' experience making ensilage cutters back of this absolutely guaranteed machine. All sizes for 4 H. P. gas engine and larger. Write today.

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Stackers and Sweep Rakes

Harvesting hay the Jayhawk way means time, men and money saved. Jayhawk Stackers and Sweep Rakes make it easy to harvest and save every hay crop. Pays for itself the first year. Fully guaranteed. Sold direct at manufacturers price. Write today for free catalog and price list.

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$29 Buys the New Butterfly Junior No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in five larger sizes up to No. 8 shown here.

Earns its own cost and more by what it saves in cream. Postal brings Free catalog folder and "direct-from-factory" offer. Buy from the manufacturer and save money.

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Dr. LeGear says:

Heal sores quickly!

Hard spring work, when the skin is tender, causes horses and mules to have sore shoulders. My antiseptic healing powder is specially prepared to heal sores *quickly*.

Dr. LeGear's ANTISEPTIC Healing Powder

is the handiest and most effective remedy for collar and saddle galls, wire cuts and open sores. Just dust on enough to cover sore—it forms a coating that *stays on*, stops the bleeding, protects from flies and infection and *heals like magic*.

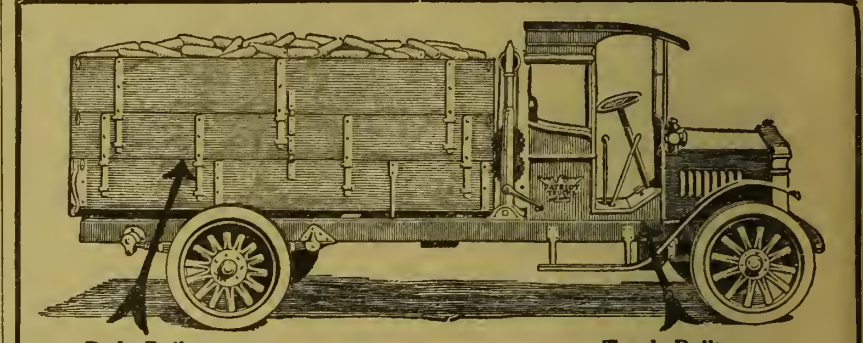
This is my genuine, original healing powder from 26 years' Veterinary experience. I absolutely *guarantee* it—if it doesn't do all I claim, the dealer is authorized to refund your money.

Get a can from your dealer

now and have it when needed. 25c and 50c sizes. Ask your dealer for a free sample-size can, or send us a 3c stamp for one. Also ask the dealer, or write me, for my 112-page Stock and Poultry book—*free*.

Dr. L. D. LeGear Medicine Co., 757 Howard Street, St. Louis, Mo.

Dr. LeGear's Stock Powders put stock in prime condition.



Body Built for Country Loads

Truck Built for Country Roads

Patriot Farm Truck

The farmers of America now have what they have been waiting for—

A truck built for farm conditions and farm work.

No intelligent farmer questions the superiority of truck service over horse service for general transportation. The only question has been whether the trucks built for service over the paved streets of cities, with bodies designed for city haulage, were the proper trucks for farm use, and most farmers have felt they were not.

The Patriot Farm Truck affords the farmer economy, convenience and certainty of transportation of his crops and live stock.

The Patriot will double or treble your load capacity and cut the time of delivery in two. It makes you master of weather and roads, and cuts the distance to your market town to one-fourth.

The Patriot will increase the value of your farm $10 an acre by bringing larger and better markets within your reach. It will pay for itself within one year. Write for full information and prices.

HEBB MOTORS COMPANY

Manufacturers of Patriot Farm Trucks

1381 P Street Lincoln, Nebraska

Lincoln Model 1½ Ton
Washington Model 2½ Ton

Continental Motor

Internal Gear and Worm Drive

The Powerful Patriot Hand Hoist

by which the body, when loaded, may easily and quickly be elevated to dump its load.

(8)

and requested to consider making a similar alteration in the name of the association and the breed. The question has been discussed pro and con in America, and there seems to be a strong sentiment in this country for adopting the name "Holland" as best descriptive of the breed.

Apple Silage for Pigs

Something "New Under the Sun," or at least in this valley, is the performance of Julius Prottengeier, who has converted his inferior apples into superior silage and thus put them into a condition of eternal preservation for the benefit of the big fat hogs and dairy cows at a time when all fruit and green stuff shall have passed out of existence.

This farmer has a ten-acre orchard on Spring Creek Mesa. For the protection of the fruit buds in early spring he had prepared a cement oil tank just on the brink of Mexican Gulch, wherein to keep oil for smudging purposes. This fall, when the shortage of cars made apple shipping impossible he suddenly discovered that he had a splendid little pit silo and he thought he saw a way of saving his apples in a form that offered greater returns than the market prices of whole apples offered.

Thereupon he placed his feed cutter at the side of the silo, ran his auto onto an auto treadmill which he had bought for the purpose of using his auto engine for power purposes, attached the belt, and running the machine on high gear at a rate that would have been about fifteen miles an hour, proceeded to convert his apples into silage at a cost no greater than that of hauling them to town.

He had to pay no packers nor buy any boxes, neither did he have to pay railroad freights that would probably consume his profits, and by the means employed he saved much time and labor.

Now let us calculate what his silage will amount to.

Counting 70 trees to the acre and 10 boxes of 48 pounds of apples to the tree, there will be about 18 tons of apples to the acre. A large part of the weight drains away, and Mr. Prottengeier created a little lake of cider, which might have been saved by mixing about seven tons of finely cut dry straw with the apple hash to take up the moisture. The straw would partake of the flavor of the apples, become soft and palatable and increase the weight of the acre of apples to 25 tons of a feed that it is thought would be better than the apple silage alone.

It is said that such silage is better for dairy purposes than for hog feed.

However, this matter is new in this locality and orchard men will have to look into it. It is said that apple pummace makes a silage that is almost equal in feed value to corn silage and there seems to be no reason why the whole apples, reduced to silage, should not be equally as good, and be very much increased in quantity by the addition of straw or other dry roughage.

If 20 tons of good dairy feed can be created from an acre of apples and a worthless straw stack, apple orchards will probably be worth more here than they are now.—S. A. S., in Montrose (Colo.) Enterprise.

$40,000 Worth of Herfords

Over $40,000 worth of Herefords were disposed of at the third annual sale held under the auspices of the Wyatt Live Stock company in the Stock Show stadium April 8th. While there was some disappointment in the number of farm buyers and prices ranged lower than the quality of offerings justified, the consignors were, nevertheless, satisfied with results as a whole. The total number of head offered was 134, with an aggregate of $41,870 for the lot. There were 68 bulls sold, averaging $304 each and 66 heifers, averaging $320.

Frank Mayne of Harlan, Iowa, was one of the heaviest buyers. To him went the top price animal of the sale, a Perfection Fairfax cow consigned by H. Bert Cave of Denver, which brought $1,400. Another top notcher was a Beau Carlos 2nd cow consigned by the Wyatt Live Stock Company and sold to John McConnell of Somerset, Nebraska, for $960. McConnell also bought from the same consignor a heifer, Miss Perfection 5th, for $770, and Colorado Beauty sired by Wyoming, offered by W. N. W. Blayney for $815. This is the only daughter of that great bull ever offered and sold.

Other consignors taking part were A. B. Cook, Townsend, Montana; John E. Painter & Son, Roggen, Colorado; A. J. Campion, Denver; H. Bert Cave, Denver; T. F. DeWitt, Parshall, Colorado; Canary & Son, Denver; Davis McConnell, Saratoga, Wyoming.

Col. Fred Reppert, who officiated, declared that the western Hereford breeders had a right to feel good over prospects, as eastern breeders were coming west for females. He had just come from the south, where the white face industry is just waking up and where sales were averaging around $1,000. Everywhere the demand for Herefords is good, he said, and breeders could look forward to a continuance of prosperity for the breed.

If you have saved a slice a day, eat cornbread and save a loaf.

Cutter's

Germ Free

Blackleg Filtrate

and

Blackleg Tissue Aggressin

The New, Safe and Efficient Agents for Protecting Calves from Blackleg.

Cutter's Blackleg Filtrate positively protects against Blackleg.

Cutter's Blackleg Aggressin, made directly from animal tissues, **affords even greater protection** and is recommended for Pure Breds.

Neither the Filtrate nor the Aggressin can possibly produce Blackleg in even the most susceptible animals since **both are germ free.**

Both have given 100% protection wherever used.

Prices—
10 dose pkge. Filtrate....$2.00
50 " " " 8.00
100 " " " 15.00
10 dose pkge. Tissue Aggressin 4.00

N. B.—Cutter's Filtrate (a "cultural product" aggressin) is full 5 c.c. to the dose, as we believe that smaller doses, whether concentrated or not, afford less protection.

Write for booklet telling what germ free vaccines are and wherein **"cultural product" Aggressins differ from Cutter's Aggressin** made from animal tissues.

While these new "germ free vaccines" have advantages that should be known to every stockraiser, we see no reason for a quick change to them by stockraisers who have had satisfactory results from the use of

CUTTER'S BLACKLEG PILLS

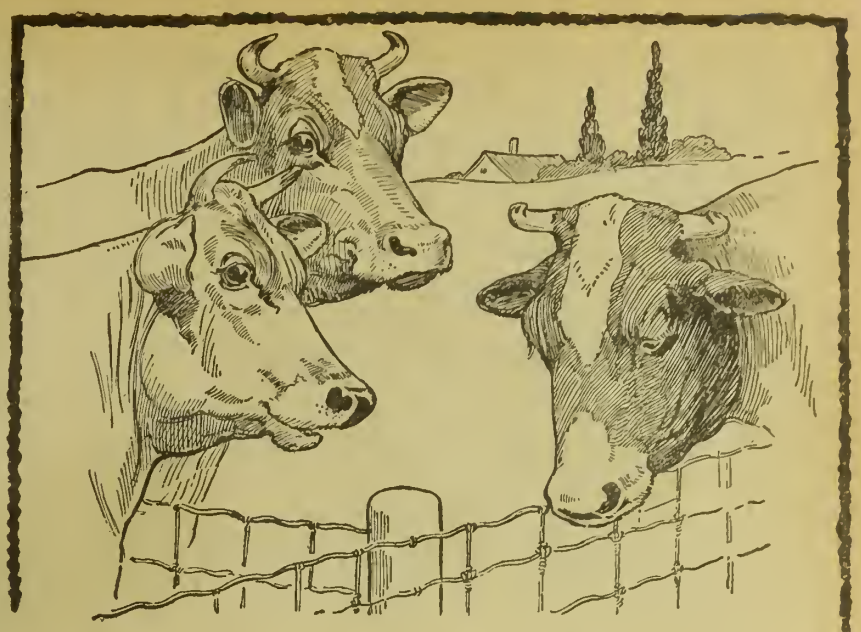
"California's Favorite" for nearly 20 years

Year in and Year Out they have given better satisfaction than any other vaccine made, and as far as price and convenience of administration are concerned, they have all the advantage.

Prices:
10 dose pkge. Single pills $1.00
50 " " " " 4.00
10 dose pkge. Double Pills 1.50
50 " " " " 6.00
Cutter's Pill Injector.... 1.50

Insist on Cutter products. If unobtainable, order direct. We pay shipping charges.

The Cutter Laboratory, Berkeley, Calif.
(U. S. LICENSED)
"The Laboratory That Knows How"



IF COWS COULD TALK

"Good morning, Mrs. Fawncoat. I hear that all the cows in the county are joining the 'Win-the-War' Club."

"Yes, Mrs. Starface; Secretary of Agriculture Houston says we must increase the production of butter-fat, and we cows have all promised to do our 'bit'."

"There's one thing I want to say right now," spoke up Mrs Black. "The farmers have got to back us up in this movement. I'm with the rest of you, heart and soul, but what chance have I got?"

"Why, Mrs. Black, what's the matter? You have a fine warm barn and plenty to eat and drink."

"Yes, I know; but what can I do as long as they use that old cream separator on the place? It never was any good, anyway, and now it wastes so much cream I'm just plain discouraged."

"Well, you're not so badly off as some cows, where they haven't any cream separator at all."

"I don't know about that. There's a lot of cream separators in this county that are only 'excuses'—not much better than none at all. I tell you, Mrs. Fawncoat, with butter at present prices and the people at Washington begging everyone to save fat, it's almost a crime to waste butter-fat the way some of these farmers do."

"That's one thing I'm thankful for," said Mrs. Fawncoat, "there's no cream wasted on this farm. We have a De Laval Cream Separator and everybody knows that the De Laval is the closest skimming machine."

"Well," said Mrs. Starface, "we never used a De Laval on our place until last fall and supposed one separator was about as good as another; but, honest, the De Laval is the first cream separator we've ever had that gave us cows a square deal."

P. S.

Of course your cows can't talk—but if they could you'd never have a moment's peace until you got a De Laval Cream Separator.

Remember that a De Laval may be bought for cash, or on such liberal terms as to save its own cost. See the local De Laval agent, or if you don't know him, write to the nearest De Laval office as below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York **29 E. Madison St., Chicago**

SELL YOUR MILK RAISE YOUR CALF ON **A & C CALF MEAL**

For One-Third What the Milk Will Sell For

Contains all necessary food elements to fatten calves quickly and keeps them in good condition. If your feed dealer cannot supply you, we will ship you direct for trial in lots of one hundred pounds or more with a guarantee that if your feeding test does not prove every claim we make to let you return what you have not used and pay what you think is fair. Manufactured and guaranteed by

ADY & CROWE MERCANTILE CO.

1900 Fifteenth Street, Denver, Colorado

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Many are the wheatless triumphs realized by the patriotic home maker in the last few weeks, and the numerous inquiries received by the editor of this little department are the best evidences of faithful effort being practiced in our kitchens, that victory may come and lasting peace find a sure abiding place.

Bread has ever been the principal diet for the most of mankind, hence the great and increasing interest in the making of the good wholesome loaf. Even those who have heretofore been reasonably successful in the making of bread find themselves studying and practicing as never before to learn the best uses of the substitutes for wheat.

What is gluten? And how shall I know when flour contains gluten? These two questions are asked again and again and thus in these days more are seeking to know how to make good bread out of the varied materials which we are asked to use. It is not an uncommon thing to hear one say that her family is well pleased with the war bread of today and prefers to continue its use indefinitely.

The editor knows that wheat saving is one thing that almost everybody in the United States can do to help win the war, and those who have been using substitutes in other ways and still made the wheat bread without substitutes have not been doing their duty. The administration requests us to use at least one-fifth of wheat substitutes in everything that is made of wheat, and to use the other substitutes in place of wheat as much as possible. It is also requested that the people eat only one and three-fourths loaves of victory bread per person per week, and one-half pound of wheat products per person per week; viz.: macaroni, crackers, pies, cakes, etc. This is a generous supply and many of us will endeavor to use more of the substitutes and less of the wheat, thus helping to balance up things for those who cannot or will not save wheat. A great variety of substitutes have been provided: corn meal, corn flour, cornstarch, hominy, corn grits, barley flour, potato flour, sweet potato flour, soy bean flour, feterita flour and meals, rice, rice flour, oatmeal, rolled oats, buckwheat flour, emmer, kafir, and others.

The following also will help to inform us of the so-called 50-50 wheat regulations of the U. S. Food administration:

Graham and whole wheat flour constitute an exception to the national regulation. Either of these commodities may be sold at the ratio of three pounds to five pounds of wheat flour—that is, five pounds of graham or wheat flour counts the same as three pounds of the usual wheat flour.

Mixed flours form another exception. Where any flour contains 50 per cent or less of wheat it may be sold without any substitutes. Where the flour is mixed at the rate of 60 per cent wheat and 40 per cent of other ingredients an additional 20 per cent of substitutes must be purchased by the consumer.

Where necessity is shown specially prepared infant's and invalid's food containing flour may be sold.

That the approved substitutes may be assorted is a fact many grocers and housewives overlooked for a time. For instance, if a customer wishes to buy a 24-pound sack of flour the necessary substitutes might be assorted as follows: Cornmeal, 8 pounds; corn grits, 4 pounds; rice, 4 pounds; buckwheat, 2 pounds; cornstarch, 1 pound; hominy, 2 pounds; rolled oats, 3 pounds.

None of the substitutes should be considered as a waste purchase. There are many household uses for each. The eight pounds of cornmeal can be made into cornbread corn muffins or used in the baking of wheat bread.

Cornstarch is useful in making custard, thickening gravy or may be used in cake baking. Corn grits fried like mush forms a delicious dish, or it may be used in baking corn bread. Rolled oats are used largely as breakfast porridge or in oatmeal cookies or in making muffins.

Buckwheat flour may be used in bread making, forming an excellent substitute for one-quarter of the wheat flour, but is especially choice in the form of buckwheat cakes for breakfast.

With 11 wheatless meals needed each week in America to provide enough wheat for the allies, the Food administration believes the substitutes will all be used to advantage.

What Is Gluten?

If you have sent to the Extension Service of your Agricultural college for bulletins and leaflets on bread and bread-making and have read them carefully you have answered for yourself and for some busy neighbor the question: "What is gluten? But for the busy or the isolated woman I would say that the protein of wheat is known as gluten and is the constituent of flour which renders tenacious the dough made from it. The greater the percentage of protein, the greater this tenacity and the consequent resistance to the pressure of the gas formed by the yeast. It is because wheat flour has this gluten in it that we use it to make what we are accustomed to call light or raised bread. Hard wheat has a strong elastic gluten, while soft wheat has a less elastic gluten and differs in other ways.

Test—Take a half cup of wheat flour and add water, making a stiff dough. Let stand a few minutes and knead it under water until starch is washed out; note the stringy elastic mass; note the yellowish grey color. This is gluten.

Note—Referring to the recipe for oatmeal bread given in the last number of Western Farm Life, we find that the bread is just as good if allowed to rise only once—this being a time saving condition is well worth knowing.

Call your neighbors together at the next Parent-Teacher Association meeting at the school house and exhibit some of these new breads, exchange recipes, and have a talk by one of your members on school lunches.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2426—Pretty and Practical Style. Cut in sizes 6, 8, 10 and 12 years. Requires 2 yards 44-inch material for dress and 1⅝ yards for guimpe. The guimpe could be of lawn, batiste or dimity and the dress of gingham, percale,

challic, silk or other seasonable materials. This is a very desirable model, especially for spring and summer.

2438—Cut in sizes 10, 12, 14 and 16 years. Requires 3½ yards 44-inch material for 14 year size. This would be pretty in flowered voile or organdy, and is also nice for batiste, dimity, satin, silk and combinations of material. The bertha may be omitted. The skirt is a two-piece model, gathered to the waist.

2421—A Serviceable Garment. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Requires 6 yards 36-inch material for size 38. How comfortable this dress will be when you know that it is easily adjusted and that it is not cumbersome. You may slip it over your best dress when called to household duties, and be ready for service in a moment. The model isnice for khaki, galatea, gingham, chambray, drill or linene. The closing is reversible. The belt ends hold the fulness over the sides and back at the waistline.

2419—Practical, Comfortable Model. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Requires 5¼ yards 44-inch material for size 38. This will be nice for gingham, percale, seersucker, chambray, linene, linen khaki. It is also good for lawn, voile and crepe. This waist fronts are closed over a stay. The skirt is straight and gathered. The skirt measures about 2½ yards at the foot.

Conservation Crust
(For Two Pies)

¾ cup cornmeal, cornflour or other substitute
¾ teaspoon baking powder
3 tablespoonfuls shortening
¾ cup wheat flour
¾ teaspoon salt
Cold water to mix (about ½ cup)

Sift together dry ingredients; cut in the shortening, blending it thoroly with the dry materials. Mix with very cold water to a rather stiff dough. Roll as thin as can be handled. Line two pie tins and use the trimmings to cross-bar the tops if desired.

Pimentos

Any one who has used this convenient article of food knows how quickly pimentos mold after the can is opened. After using what is desired heat the remainder and add a tablespoon of oil or butter, put in glass and cover. Keep in refrigerator or very cool place until needed.

Fried Bread with Cottage Cheese

Spread slices of stale bread thickly with cottage cheese, with which pimentos, nut meats, or some marmalade or jelly has been blended. Dip in a mixture of egg and milk and fry quickly in butter or other fat.

Cottage Cheese Pie

½ cup cottage cheese
⅔ cup sugar
⅔ cup milk
2 egg yolks, beaten
1 tablespoon melted fat
Salt
¼ teaspoon vanilla

Mix the ingredients in the order given. Bake the pie in one crust. Cool it slightly and cover it with meringue made by adding 2 tablespoons of sugar and ½ teaspoon vanilla to the beaten whites of 2 eggs, and brown it in a slow oven. (New York State College of Agriculture.)

Suggested Breakfast Menu

Orange or grape fruit; cottage cheese sausages; corn bread or toasted victory bread; coffee. For a heartier meal, include creamed potatoes.

It Is Going to Take All the Beets, Sugar and Wheat We Can Produce to Help Our Boys in the Trenches Lick the Kaiser. We Need Both Wheat and Sugar as Well as Other Food Products

The adaptability of soil, water and climate, the knowledge each farmer has concerning the growing of various crops, and his machinery equipment, should be deciding factors.

A message from United States Food Administrator, Herbert C. Hoover, in a message to Thomas Stearns, Colorado Food Administrator, reads:

"At the request of the sugar beet growers the food administration, through inquiry of various commissions, undertook to use its best offices to secure a price for beets which would return a fair profit to growers throughout the beet regions.

The factories having agreed to pay the prices recommended and upon a basis much higher than were before received by the growers, and in accord with the demands of the majority of growers, I do trust that the growers will support the nation's sugar supply by enlarging planting.

Our shortage of shipping and the necessities of the allies make larger demands upon our domestic sugar next year than ever before and the maintenance of our own industry is primary not only to the well being of the growers but the nation as a whole."

It takes a cargo ship 150 days to make a round trip between England and Java, while a round trip between England and the United States can be made in fifty days.

The ten dollar per ton price for beets urged by the government was for the distinct purpose of increasing the beet sugar production in the United States.

THE GREAT WESTERN SUGAR CO.
DENVER, COLO.

Fine China and Glass
From Open Stock

Samples sent to any responsible person at our expense and risk.
English, French, and American.
Floral and conventional decorations in dainty colors and formal white and gold.

Tell as nearly as possible what you like and about what price.

Government Wants More Poultry

HOW TO MAKE THE FARM FLOCK PAY

H. W. SANBORN, Extension Poultry Husbandman
U. S. Department of Agriculture

Our government is requesting all to raise and keep poultry this year as a war necessity to furnish animal foods.

In responding to our government's appeal what is required of us to make our poultry profitable.

As a result of our appeal to the people to raise more poultry this year we have received numerous letters asking for information on keeping poultry and many of them expressing their doubt as to their ability to do so profitably.

I wish to state that in every community you will find some who are keeping poultry profitably and what one person does another can do. It is a question of information of what to do to obtain certain results and then doing them.

I want to say emphatically that profits in poultry keeping depend upon production and production alone. There are no "if's" or qualifications to this fact and it is a fact and the sooner we realize the fact and do what is required to obtain high production we will obtain it.

It depends upon whether our hens as a flock average 50, 75, 100, 125, 150, 175, or even 200 eggs each per year as to our profits or losses. This being the case, what is production dependent upon or what is required of us to obtain high egg production from our hens. Production is based upon the following:

1. Selection of our breeding stock:

(a) For constitutional vigor.

It is absolutely necessary that in selecting our breeders we do so with care and not breed from the whole flock good, bad and indifferent, without any regard being given to whether they have stamina and are healthy, and strong and have never been sick or had any trouble that would lessen their vigor. Vigor is the basis of good poultry culture and without it we will not be able to hatch and raise good vigorous pullets capable of consuming, digesting and assimilating large quantities of the rich feed required by them to manufacture large quantities of eggs.

(b) For high production.

Food is our need and in our breeding we should select our breeders for production and make that our aim. Like begets like and if we wish to raise pullets that are capable of producing high egg yield we should breed from stock that have been high producers.

2. Hatch early to produce fall and winter layers:

Early hatched chicks grow faster, mature younger, and are most profitable. They are most profitable because they do mature earlier and lay the fall and winter eggs that bring the highest price. Not only that but they will have a much larger egg yield for the year as they will have a much longer laying period.

3. Proper feeding of chicks.

Chicks should not be fed until at least forty-eight hours old from the time they hatch. In hatching they take the yolk of the egg into their body and if fed too early this yolk is not absorbed by them and digestive troubles set in and many chicks are lost by feeding too soon.

The best first feed is sour skim milk. They should also have grit, charcoal, and fine oyster shell.

Water should be given them the second day as well as the milk. The first solid feed may be either rolled oats or bran or a mixture of the two.

In artificial raising of the chicks this should be fed on heavy paper or cardboard so that the little chicks will see it readily and get the feed we give them. This can be left before them for ten minutes and then removed. Little chicks should not be overfed before their digestive apparatus becomes strong. They should be fed often, about every two to two and one-half hours, five or six times daily. After three or four days the morning and evening feed may be scratch grain fed in the litter. This may be either commercial chick feed obtained from the grain stores or fine cracked corn, pin head oatmeal, millet seed, cracked rice, or cracked peas may be used. A mixture being better than one kind alone. After the chicks are twelve days to two weeks old, if they are active and growing properly and haven't any digestive troubles at that time, we should keep a dry mash before them in a low down chick mash hopper and feed the scratch grain in the litter liberally, night and morning. Where skim milk can be had at a reasonable cost we should continue to furnish it to the chicks. If we do not have skim milk the dry mash should be fifteen to twenty per cent beef scrap. The growing chick's body requires more protein for rapid growth and proper development than is contained in the grains and if we desire to do the best possible with our chicks this is necessary. We should also feed our chicks liberally, in fact the very best we can as the quickest growth is the most economical and brings about a better development of the pullets for egg production which gives us our early maturity and adds profit to the business.

4. The time to put our pullets into the laying house. Their permanent quarters:

The house should be cleaned, disinfected and put in good order for winter use before the pullets have started to lay and they should be put in their permanent quarters when they begin to show signs of maturity so that they will become used to their new quarters and begin their laying there. After they have become accustomed to their new quarters and know where home is they should be allowed to range as usual where this is possible, but fed in their new home.

5. Proper housing provides—

(a) Houses should be dry.

The laying house should be located on high ground or where there is good drainage. Hens dislike dampness in or around their home. Damp houses very often cause colds and roup in hens.

(b) Provide good ventilation without drafts. Houses should have tight back wall, tight roof and tight end walls with open or partially open front. Hens require plenty of good pure air and do not mind considerable cold, but a close stuffy house always causes trouble sooner or later in one form or another.

(c) Should have southerly or southeasterly exposure. This admits sunlight and helps to keep the house sanitary and the lice and mites do not breed as fast.

Any style of house is all right and any house fulfilling these requirements is good. The essential thing is that poultry houses should be dry, have good ventilation without drafts and admit the sunlight and if kept clean and sweet we will get good results.

6. Feed for egg production.

(a) Water.

Good clean water should be kept where the hens can have it all times and care should be taken to see that the drinking vessels never become dry. Lack of water will stop egg production more quickly than any other one thing.

(b) Grit, oyster shells and charcoal.

These should be kept in hoppers accessible to the hens at all times.

(c) Green food.

Green food is good and should be furnished when possible. Hens having free range obtain this in the season when it is growing. Where it has to be furnished lawn clippings are good. Sprouted oats, mangels, carrots, cabbage, etc. are good. If green food is not available, alfalfa leaves may be kept before them.

(4) Scratch grain.

The scratch grain may be made up of the available grains obtainable in our own locality and should, where possible, consist of two or more grains with corn furnishing the bulk of the scratch grain. Barley is good. Heavy oats are good—weighing 42 to 45 pounds per bushel. Light oats are a very poor feed and should never be used for poultry.

In some sections where it is raised kafir or milo maize may be used as part of the scratch grain. Peas are also good. This scratch grain should be limited to one-half the daily ration which is about two quarts to 25 hens. I like to feed this in the afternoon about two hours before the hens go to roost. It should be scattered in this litter.

(e) Dry mash.

The dry mash should be fed in self-feeding hoppers and kept before them all the time so that they can eat it at will at any time during the day. This dry mash may be made up of the different ground grains and mill feeds such as bran, shorts, middlings, mixed feed, corn meal, barley chop and beef scraps. This must be one-fourth beef scraps to obtain high egg production. The eggs which the hen manufactures from the food consumed are very much richer in protein than the grains, and in order to get high egg yield it is necessary to furnish animal protein in the mash to enable the hen to get this for her manufacture of eggs in large quantities and maximum profits. This is vital and necessary and

(Turn to page 19)

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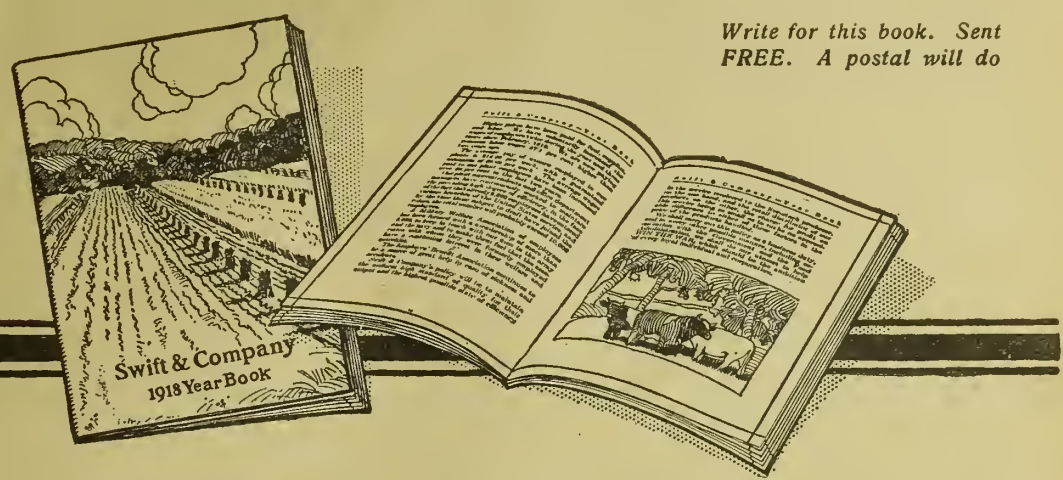

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FREE—SEND NAMES OF FIVE KODAK OWN ers, with first order, and get a beautiful fi by seven enlargement from your favorite film Developing 10c, prints 3c up. Foto Art Co. Dept. N. Norfolk, Neb.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SENI for 68-page illustrated catalog. We also sel Comb and Extracted Honey. The Colorado Hone Producers' Association, Denver.

LIVE STOCK

Advertisements under this head will be inserted at 5c word, four or more insertions 4c a word each insertion. N display type or illustrations admitted.

CATTLE

MILKING SHORTHORNS FOR SALE. W. A Wight, Las Animas, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write Joh Held, Sterling, Colo.

FOR SALE—WE HAVE A FEW REGISTERE Hereford coming yearling bulls and five two year old bulls. J. O. D. Ranch Co., Aroya, Colo

Government Wants More Poultry

(Continued from page 17)

it is impossible to obtain high egg production unless we furnish the material required by the hen to manufacture them. There is just one exception to this requirement and that is if the laying hens and pullets can be furnished all the skim milk (sweet or sour) that they can consume. This furnishes the protein and I wish to state emphatically that skim milk or buttermilk is absolutely the one best feed for egg production and if furnished as a drink in unlimited quantity it will not be necessary to furnish beef scrap in the dry mash.

7. Sanitation.

Poultry house should be kept clean and sanitary. Dropping boards should be cleaned often. Daily cleaning is best and only requires a very few minutes. They should be sprayed with zenoleum. creolin or some good disinfectant occasionally for keeping down germs and promoting good health and vigor.

8. Parasites.

Hens should be furnished a good dust bath to help in keeping them free from lice. If this is not effective they should be treated for lice and kept down. The U. S. Department of Agriculture will send to anyone requesting it Farmers Bulletin 801, entitled, "Lice and Mites in Poultry."

(b) Mites.

Mites are the worst pest the hens have and should never be allowed in the hen house. Frequent spraying with disinfectants the same as for sanitation tend to keep them down, but the most effective method is to paint the roosts and the adjacent wood work with crude oil, doing a thoro job filling in all cracks. This will kill and keep the mites away from the roosts and there will not be any to get on the hens at night when at roost and suck their blood, thus using the food the hens have digested and need to use in the manufacture of eggs.

In conclusion I want to state and restate that profits in poultry keeping depend upon production and production depends upon right method as outlined, and if faithfully performed will bring corresponding good results and be very profitable. It depends upon us, and in our struggle for increased animal food we should all do what we can to increase production and to practice good poultry culture to get the maximum yield and return. We can do this and if we do not get profitable returns it is because we have not met the requirements for high production and is our fault. This should be corrected and proper methods adopted.

Arkansas Valley Lambs

A bulletin issued by the U. S. Bureau of Markets under date of April 8 from Rocky Ford, Colo., gives the following resume of livestock movement from the Arkansas valley:

During the last fifteen days of March 2,478 cattle and 13,285 sheep were shipped to market from the Arkansas Valley feeding district. In addition 472 cattle and 1,900 sheep were taken off feed during the same period. No feeder stock was reported as entering the valley and there remained 12,435 cattle and 61,716 sheep on feed at the end of March. There were shipped from the valley or taken off feed during the entire month of March 5,393 cattle and 41,017 sheep compared with 4,103 cattle and 16,951 sheep during February. Approximately half the total number of cattle and sheep which were fed in the valley this season had been marketed by March 31. The Las Animas section which had the largest number of lambs on feed March 15, contributed only about four carloads to the marketward movement during the last two weeks of March, and there were no lamb shipments during that period from the Manzanola district, which is the third largest sheep section in the valley. Total shipments were distributed more evenly from various parts of the valley. No difficulty is being experienced by either the cattlemen or sheepmen in obtaining cars for shipment. In view of the decidedly improved market outlook, sheep feeders seem more inclined to finish their season's operations, and the tendency to take stock off feed has diminished appreciably.

Corn Required to Fatten Hogs

Ans. to F. H., Las Animas county:

Question: "How much corn does it take to fatten a hog from small pig up to six months old?" "Can a hog be fattened with beans?"

At weaning time it requires about four hundred pounds of a well balanced ration to produce one hundred pounds live weight in a pig. It will require considerably more than this, if corn alone is fed. The pig, at this age, should get about eight parts corn and one part tankage, four parts corn and one of gluten feed, or, three parts corn and one of bran. At six months of age, it will take about 480 pounds of a well balanced ration to produce one hundred pounds gain in live weight.

A hog can be grown upon beans, but they will not make a satisfactory quality of flesh. The pork will be rather soft and flabby. Corn and beans should be fed together.—G. E. M.

Illinois Horse and Jack Co.

R. I. Little of Des Moines, Iowa, head of the Illinois Horse and Jack Company, has been a prize winner at fairs for half a century. He writes us that 1917 was his 50th year since he got first prize on fine stock. His first winning was made as a boy rider. He has 20 medals to his credit from 1871 to 1885, all first prizes at Iowa and other fairs. His ancestors have raised fine horses in America for 280 years, and he is continuing the breeding of stock along the same intelligent lines. He is breeding Percheron, French Draft, English Shire, Belgian, Suffolk Punch, stallions and mares and is also a breeder of imported Catalonian and American bred Mammoth jacks.

SALE OF 150 HOLSTEINS

Chas. Rossiter, Broomfield, Colo., May 7th will offer at public auction 150 head of Holsteins, consisting of 35 head of cows 3 to 6 years old, 90 heifers 6 months to 2 years old, 2 carloads of calves suitable for calf clubs, 25 head of red heifers and steers 1 year old. He will also offer his fine Holstein bull for sale. He is an extra fine animal 21 months old. This auction sale will be held on Mr. Rossiter's farm three miles south of Lafayette, Colo.; Col. H. E. Buchanan, Auctioneer.

War gardens should contain as far as possible vegetables that can be preserved or kept for winter use. The federal government has sent a dehydrating plant to Colorado to determine the practicability of marketing our surplus fruits and vegetables. Last fall, thousands of tons of apples and peaches, and this spring, great quantities of potatoes have gone to waste for the want of factories. Dehydrated goods do not suffer from frost, may be shipped abroad, can be used at any time and weigh but a small percentage of the fruits and vegetables in their raw state; in every way, therefore, this scheme would help our congested transportation conditions and meet the necessities of war.

CATTLE

(Continued from page 18)

FOR SALE—2 REGISTERED HEREFORD Bulls coming 2 years old. Corlee by Carlos 13, Lemon from noted Iowa Bell Anxiety. Both fine shape. Will price to sell. G. E. Nichel, Baileys, Colo.

REGISTERED ANGUS BULLS FOR SALE—One carload coming 2-year-old; good back and lines; low down and blocky type; lots of bone; in good condition.—W. H. Pike & Son, Plano, Ia.

FOR SALE—MY HERD OF HIGH GRADE Holstein cows. 35 of the finest milkers in the state, well marked. If you want good milk stock here is your chance; will sell all or part. Thos. Simmons, Leetsdale Drive and S. Hudson st., 1 mile southwest of 2nd ave. and Colorado blvd. Route 2, Box 78, Denver, Colo.

COWS, HEIFERS AND BULL—34 HIGH grade Hereford cows, mostly 4 and 5 years old and dehorned, are Brown Lad's breeding and grade next to registered stock. 22 head choice coming yearling heifers of Freighter 17 breeding. Also herd bull, Freighter 17, is 4 years old. Cows are due to calf after March 15th. Must sell for I have no pasture from now on. Josef Neugelbauer, Juleshurg, Colo.

HOGS

DUROC-JERSEY HOGS—LARGE, BIG-BONED, registered and immune. J. B. Benedict, Prop. Wyldemere Farm, Littleton, Colo.

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC JERSEY HOGS—THE BIG BONED, large, prolific type. Young pigs by the Senior Champion boar at the last Denver Show, Orion Cherry King 15th. Did you see our grand champion barrow that sold at 50c per pound? J. O. D. Ranch, Aroya, Colo.

JACKS

FOR SALE—A CRACKING BIG BONED JACK, excellent breeder. His colts will prove it here. J. O. D. Ranch Co., Aroya, Colo.

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

DENVER RESIDENCE AND INCOME PROPerty to exchange for land N. H. Griffith & Co., 301 Boston bldg., Denver, Colo.

PART OR ALL OF 75 ACRES, DENVER, N. W. of Fairmount, cultivated, artesian well, ditch water, several buildings, orchard. Owner, P. O. Box 674.

FOR SALE—400 ACRES IRRIGATED RANCH in beet growing district, fertile soil, plenty of water, price $75, terms to suit, paved road now being built. N. L. Strong, Sheridan, Wyo.

FOR SALE—220 ACRES IN BARTON COUNTY, Missouri; small improvements, abundance fine running water; a fine cattle or sheep ranch; price, $10,000; good, easy terms. J. B. Duvall, Lock Box 172, Butler, Mo.

MISCELLANEOUS

ALFALFA FOR SALE—45 TONS FIRST, SECOnd and third cutting. P. O. Box 1695, Denver, Colo.

MONEY TO LOAN ON DRY LAND FARMS and stock ranches. Write Shanholtzer, Brush, Colo.

FOR SALE—SEVERAL THOUSAND SECOND hand bale ties, nearly full length. At 1226 Wazee st., Denver, I. E. Newton.

NEW 2-BOTTOM TRACTOR PLOW; CAN BE made 3-bottom; cheap. 539 Marion st., Denver, Colo.

PARTS AND MOTORS OF ALL KINDS SUITable for tractors, at junk prices. Auto Wrecking & Metal Co., 834 Broadway, Denver.

CLEAN YOUR ALFALFA—POCKET GOPHER Trap. Send me $3 for one-half dozen. Guaranteed or money refunded. Success Gopher Trap Co., Harlan, Iowa.

WILL TRADE CITY AND RANCH PROPERTY near Grand Junction, Colorado, for the following second-hand implements: One small size threshing machine, about an 18-inch cylinder, with belting, etc.; one Clark Cutawsy hush and hog plow, one Martin Dichter, one small size saw mill, not over 10 h. p. James McKenzie, Aspen, Colo.

Kansas Germ-Free Fluid Vaccine for **Blackleg**

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

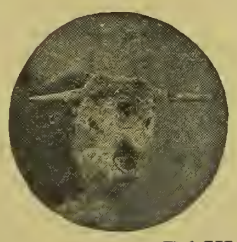
The Kansas Blackleg Serum Co.

LIVESTOCK EXCHANGE BLDG., ROOM 407, DENVER, COLO.

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred



We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Write us for prices and detailed information.

OFFICES

First National Bank Building, Cheyenne, Wyoming
406 New Live Stock Exchange Building, Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager

WM. J. ROSSMAN, Ranch Superintendent **JAMES C. ADAMS, Salesman**

10,000 DAY-OLD CHICKS **40,000 EGGS FOR HATCHING**

S. C. White LEGHORNS **The Famous TOM BARRON Egg Machines--282 Egg Blood**

Our Leghorns are range-raised, strong, healthy and vigorous. Tested 8 years for heavy egg production. Sure winners at the egg basket. Why not come to headquarters for bred-to-lay Leghorns? They will cost you no more. Highest quality—lowest price. Get our big free price list before you buy eggs, chicks or stock. Write

THE FOWLER EGG FARM **Fowler, Colo.**

HIGH-CLASS JERSEYS AND DUROCS

Majesty Oxford Combination, half-brother to the grand champion at Columbus, at head of Jersey herd.

A September calf by old Count Majesty, out of Imp. Cowslip Sweet Bread, a nice, straight calf, solid color. He is for sale. Also a December calf by M. O. C., out of a daughter of the John Boyd $1,000 cow.

Have some fine Septemher pigs out of a daughter of Model Critic, by a son of Grand Model. at right prices.

A. M. McCLENAHAN, Greeley, Colorado

ALFALFA SEED FOR SPRING SOWING. From locality where it grows best and most abundantly. Our seed won the Gold Medal at the St. Louis World's Fair, in competition with the world. We also handle White and Yellow Sweet Clover. Write us for prices and free samples. Address McBETH SEED HOUSE, 320 Main, Garden City, Kan.

I can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Galloway and Hereford calves and yearlings. Prices $75.00 and up. Pedigrees with each, also guarantees. R. I. LITTLE, Good Block, Des Moines, Iowa.

$25 Holsteins $25

You can buy calves for less but when you buy stock from Roberts you get value received. High Grade 15-16 pure, 5 weeks old calves. Specify markings. Express paid. Satisfaction guaranteed for $25. Cows $125.

J. A. ROBERTS
Cattle Expert Waukesha, Wis.

Shorthorn and Polled Durham Cattle

Valentine's Last, X12316, 452008 at head of beef herd. Claywood White, 427350 at head of milk type.

STATE INDUSTRIAL SCHOOL
Golden, Colorado

HOLSTEIN CATTLE

Breeding Herd numbers eighty head. Established in 1901. Cattle unexcelled for type and production. At present we are offering A FEW YOUNG BULLS READY FOR LIGHT SERVICE. We ship subject to inspection, furnish health certificate and written guarantee. Write to

LITTLE & LITTLE, Clarks, Nebraska

BLUE RIBBON HERD

DUROC JERSEY HOGS
Everything Registered
Stock for Sale

C. F. BURKE, Rocky Ford, Colo.

HIGH GRADE HOLSTEINS

WE OFFER FOR SALE, choice, beautifully marked heifers or bulls, 3 to 5 months old, $45.00 crated F. O. B. cars. Write

W. C. KENYON & SONS, Elgin, Ill.

"Doing all humanly possible"—but the war calls for super-human effort.

The Grange

Offices 415 Charles Block, Denver
C. W. SWAYZE, Editor

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JOHN MORRIS, Golden, Colo., Master.
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C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 415 Charles Block, Denver, Business Agent and Secretary.

The list of new officers of the various subordinate Granges has been furnished Western Farm Life and beginning with the present issue, the three principal officers of each grange will regularly receive the paper. A large number of Granges failed to send their list to the State Secretary, as had been requested. These lists should be sent in immediately, as a matter of record for the State Grange and also to enable Western Farm Life to enter the officers on the mailing list, as per arrangement with the State Grange. In forwarding lists be sure to give full name and complete address of each officer.

The paper is sent to the Master, Secretary and Lecturer of each local and those not receiving copies should give notice to State Secretary Scruggs. Officers on the list who may move during the year to a new address, should notify Western Farm Life, so that change can be made.

Secretaries are urged to forward to the State Lecturer, Mr. C. W. Swayze, who has charge of this column, all news of local activities, meetings of Pomonas and special sessions as well as regular meetings at which special topics may be discussed. It won't hurt to have your local mentioned in this column occasionally. This space is reserved in each issue of Western Farm Life for the benefit of the organization, and subordinate granges are urged to take advantage of it. Communications may be addressed to Mr. Swayze, care Western Farm Life, or at his home address given above.

Modern Shearing Sheds Benefit the Wool Industry

(Continued from page 4)

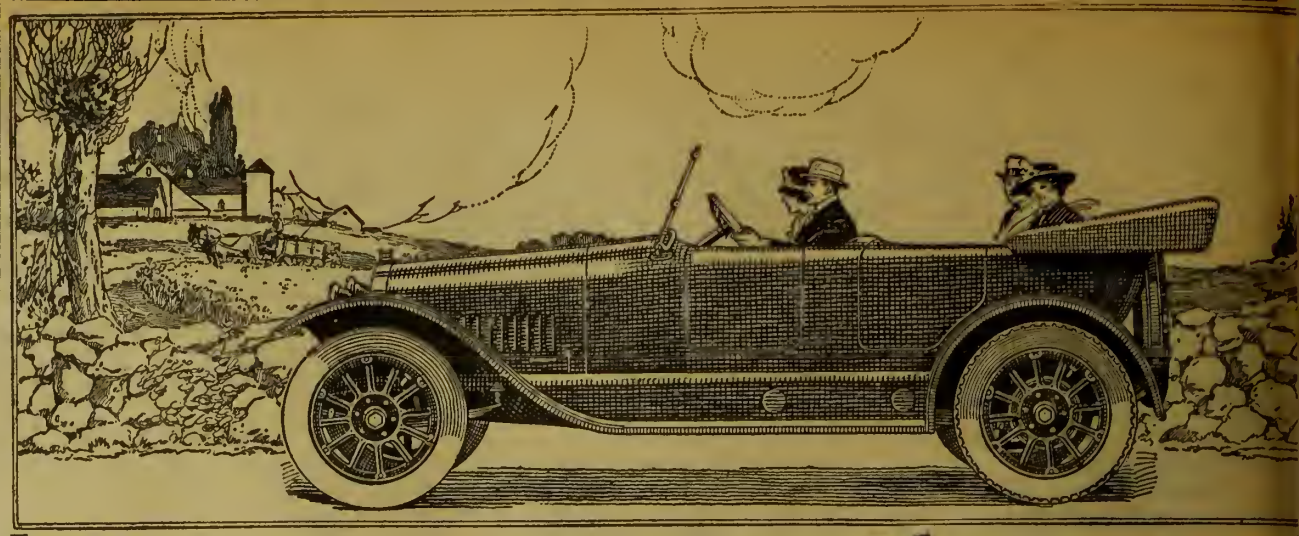
skirting needed with the average fleece. The soiled locks or inferior wool round the edge of the fleece are picked off and dropped into receptacles like large waste paper baskets. The fleece is then folded and rolled in such a way that the valuable shoulder wool is on the outside, and is then placed on the wool classer's table in front of the wool bins. The wool bins, 8 or 10 in number, have doors at either end, so that they may be entered either from the side next the baler or next the wool classer's table. The classer picks up each fleece, rapidly determines its grade, then places it in the bin above which is a sign indicating the grade of wool that belongs there. When one bin is filled the door on the classer's side is closed and the balers are free to open the opposite door and begin baling. Besides the regular wool bins for the main grades there are probably eight others at the sides of the room for the first and second grade pieces, buck fleeces and other odd lots of wool.

A 20 machine shed will keep two hand baling machines busy. The baler is somewhat like two large boxes 2 ft. by 2½ by 4 ft, strongly constructed, and hinged together at the top with various levers attached for compressing the wool. The large sack which forms the cover for the sides and one end of the bale is placed in one section. The cover for the other end of the bale is placed at the bottom of the other section. Both sections are tramped full of wool as tightly as possible. The one section is then up-ended on top of the other, and the wool in it forced down into the other section by the ratchet levers. This brings the edges of the sacking together to be sewed, the sides of the baler are knocked apart and the 500-lb. bale rolls out. It is wheeled over to the scales and weighed, and the superintendent stamps on it the weight of wool, the name and grade of the wool, the name of the breed in case of purebred rams, and the name of the owner. The bale is then rolled onto the loading platform, to be hauled away.

These sheds are built from 4 to 6 feet from the ground. This not only makes loading easy and allows the shorn sheep to get out underneath the sweating pens to the tally pens, but provides a large shelter under the building where freshly shorn sheep can be sheltered in case of severe storms. Many sheep are lost annually thru being exposed to cold winds immediately after shearing, especially when sheared close. A special thick comb has been introduced the last two years for use in early shearing that leaves ¼ of an inch of wool on the sheep, affording it more protection.

It is perhaps too early to say what the final outcome of the shearing-shed will be, or how popular they will become. The greater number of sheds now in operation are in Wyoming, but there are now several in other states. Colorado will have at least four in the San Luis Valley this year. For several reasons there has been little or no increase in the price paid for wool put up in the new way. There has been considerable opposition from the middlemen who do not like to see the wool grower getting in position to deal directly with the manufacturers. The large commission firms have well equipped warehouses where they can grade the fleeces themselves. The manufactures' object, possibly with reason, to the larger number of grades used under the Australian system, also because terms used for the grades are different from the Boston terms. The buyers also are likely to be suspicious of the new movement because of the greater knowledge it will give the wool-producer regarding what he has to sell. A certain amount of opposition is to be expected when any new method of such scope is introduced. Some of these criticisms will likely result in modifications to suit American conditions. The main features of the system are likely to be retained, as they are entirely to the advantage of the wool producer.

King Bros. of Laramie, Wyoming, Rambouillet and Corriedale breeders, report good success from engaging an eastern wool grader to classify their wool according to the Boston grades rather than the Australian grades. The greatest result to date of the modern shearing shed is that when sheep men can once see the large amount of short clothing wool they are producing, and the smaller price they get for it, they are likely to pay more attention to selection and improvement of their flocks. Some flocks in Wyoming have increased their clip 2 lbs. per sheep since the shearing sheds were started 2 years ago.



Mitchell

The Only $1250 Six

So Big and Roomy, So Sturdy and Powerful

SEE the Mitchell Light Six — our latest model — before you buy a fine car this spring. There is nothing else in this class today which offers comparable value. The wheelbase is 120 inches, which means a uniquely roomy car for five. Also an impressive car. The six-cylinder motor of the finest type develops 40 horsepower. That means unusual capacity.

The New Idea Car

This car conforms to the new ideas on overstrength and endurance. Most men today buy a car to keep, and they want every part to endure.

The important parts are oversize — the margins of safety are extreme. Parts which get a major strain are built of Chrome-Vanadium steel.

Our tests and inspections are many and radical. In every part we require more than is necessary. No automobile in the world is built by more scientific methods.

It has taken 14 years of watching and perfecting cars to produce such a car as this.

Unusual Standards

This car is equipped with numerous features which most other cars omit. It has shock-absorbing rear springs which have never yet been broken. It has a new-type steering gear which doesn't tire the driver. The engine is so perfected that the car is a marvel of economy, both in tires and gasoline.

We build our own bodies under famous craftsmen to make them as fine as the chassis. Not a detail is omitted which adds beauty or luxury. The finish coats are fixed by heat, so the luster is enduring.

Here is the finest example of what can be done in a model efficiency plant. Experts have spent years to equip this factory to produce such a car economically. Every method is up-to-date—waste is entirely eliminated. In no other way could such a car be produced at this $1250 price.

If you want a quality car—a roomy, powerful, enduring car—you will find no value this year comparable with this.

The touring and roadster models sell at $1250 at factory, but the price cannot be guaranteed. We also make a Sedan, a Coupe and Club Roadster.

Write today for our catalog, then see these new cars at the nearest Mitchell showroom.

MITCHELL D-40
120-Inch Wheelbase 40-Horsepower Motor
Touring Car $1250 2-Passenger Roadster $1250
Club Roadster $1280

MITCHELL C-42
127-Inch Wheelbase 48-Horsepower Motor
Touring Car $1525 Club Roadster $1560
4-Passenger Surrey $1625

All prices f. o. b. Racine—Subject to change without notice.

MITCHELL MOTORS COMPANY, Inc., RACINE, WISCONSIN

(600)

Denver Hand Pull Lateral Gates

These gates prevent cutting the ditch banks in order to divert the water and put the water under complete control of the irrigator. They are durable, low initial cost, preserves ditches. May be attached to "Armco" iron pipe outlet conduit any desired length. No cement work required. Ask for descriptive literature. We are headquarters for "Armco" flumes, ditchlining, pipes, culverts tanks and troughs and all kinds of irrigation supplies.

THE R. HARDESTY MFG. CO.
1837 Market St. Denver, Colo.

UNIVERSITY OF ILLINOIS LIBRARY

WESTERN FarmLife

Vol. XX Denver, Colorado, May 15, 1918 Semi-Monthy

Duchess Karen Venezuela (212246), Grand Champion Female in Dairy Division, National Western Stock Show, 1918

Duchess Karen Venezuela (212246) is one of the most remarkable cows of the Holstein breed in the state of Colorado, in both type and production. I say remarkable because, during the National Western Stock Show held at Denver this year, she was awarded first premium in the aged and senior cow class, topping the awards with the grand championship in competition with many noted individuals. She is owned by Lee Gaiser, a Denver dairy farmer.

She freshened at the show, returned home and during extremely cold weather and in poor condition for a test, she qualified for Advanced Registry with a record of 30.3 pounds of 80 per cent butter. Extraordinary features of the cow are her splendid type, constitution and perfect mammary development.

This year, before she made her official record, Mr. Gaiser refused $2,000 for her. She comes from new stock, which have never been officially tested. Hugh Van Pelt, the world-famous authority on dairy cattle, who judged at the stock show, praised her highly and friends induced Mr. Gaiser to give her a chance to make a record. Duchess is just another evidence of the fact that a cow may be both handsome and productive. She will be heard from again.—Gladys Gaiser.

THE BEST LINIMENT

OR PAIN KILLER FOR THE HUMAN BODY

Gombault's

Caustic Balsam

IT HAS NO EQUAL

For the Human Body — It is penetrating, soothing and healing, and is for all Old Sores, Bruises, or Wounds, Felons, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Sore Lungs, Rheumatism and all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES

"Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.

Price $1.50 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.

The LAWRENCE-WILLIAMS COMPANY, Cleveland, O.

Big Money in Running Water

Let us start you in business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

There is a big demand for wells to water stock and for irrigation

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co. Box 943 Clarinda, Iowa

The Famous Water Elevator will guarantee your crops against droughts at 50% less cost than other systems. Our elevators are shipped on 30-day Free Trial.

Write today for our catalog — it is free.

The System of No Regrets

The Famous Water Elevator Co.
1410 Stout Street, Denver, Colo.

THE SELF-OILING WINDMILL

has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods everybearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load

We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.

Write AERMOTOR CO., 2500 Twelfth St., Chicago

Rider Agents Wanted

Everywhere to ride and exhibit the new Ranger "Motorbike" completely equipped with electric light and horn, carrier, stand, tool tank, coaster-brake, mud guards and anti-skid tires. Choice of 44 other styles, colors and sizes in the famous "Ranger" line of bicycles.

DELIVERED FREE on approval and 30 DAYS TRIAL. Send for big free catalog and particulars of our *factory-direct-to-Rider* marvelous offers and terms.

TIRES Lamps, Horns, Wheels, Sundries, and parts for all bicycles—at half usual prices.

SEND NO MONEY but tell us exactly what you need. Do not buy until you get our prices, terms and the big FREE catalog. Write *Today*.

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Make Charge for Lending

Shall we lend and help our neighbors or shall we be more or less selfish and refuse? 'Tis a very hard matter to decide justly, inasmuch, if you pick and choose to whom you do the favor (and it is a very important favor sometimes) of loaning to, you create a bad feeling, or perhaps one should say a feeling of resentment, thru discrimination. In new and comparatively new settled localities very few have all the necessary farm implements to conduct their work, and it is generally the rule to help one another, but it is usually a costly business to those who really take care of their machinery and keep same in proper repair, because many who borrow farm implements do not take even as much care of borrowed tools as they do of their own, and to return anything borrowed is the exception and not the rule. I have often thought and suggested that the best plan would be for those who lend to make a small charge, so much a day for the use of borrowed implements, broken parts to be replaced or paid for, not for the purpose of making money out of the transaction, but to cover cost of wear and tear; also it would have a tendency to stop some from borrowing too often when they found out that borrowing costs something in hard cash.

An agreement as to what to charge could be decided upon at a general farmers' meeting. To do the above would be equally fair to all. The man who evaded payment could be boycotted by the rest of the community. The writer has paid and paid big thru lending, but what can you do? The above suggestion might be worth trying.—Dr. V. T. Cooke, Denver, Colo.

Wore Out Borrowed Rope

Under date of March 1 you ask your readers to send in their views about borrowing tools. Now I know from experience that it does not pay to borrow, and it does not pay to lend farm tools. Of course, if you broke one of your tools and your neighbor has one that he is not using, it is all right to borrow, but I know of some men that depend on their neighbors for most all their tools. The sooner you quit lending to such people the better for both parties.

I loaned a rope to one of my neighbors to use on his hay fork. He said he would return it in a few days. Two years after that I went after the rope and he said he did not remember of borrowing any rope of me. I finally got him to remember getting the rope. He had worn the rope out and said he would buy me a new one, but that was five years ago and I have not seen any rope.

A business man will not borrow except in a breakdown, and a business man won't lend, or don't like to, except in very rare cases. Neighbors, you can't afford to borrow. You will never get very far in this world in a business way if you depend on your neighbor for your tools. Cut down your expenses in some other way until you get enough money to buy what tools you have to have and you will be better off in this world's goods, and you will be better thought of in your neighborhood, and you will have more and better friends.—C. E. Painter, Keating, Colo.

New French bread regulations established early in April specify the maximum amounts which people of different ages may have daily. Even the bread of children less than three years old is limited. The new rations are about two-thirds of the former bread allowance. Bread constitutes over one-half the diet of the French nation, and the further fact that prices of meat now prohibit its use by a large part of the population shows the extent to which the French people have restricted food consumption.

To the burden of war and the general shortage of food in France is added a serious decline in hay production. Official reports received by the U. S. Food administration show that the 1917 French hay crop was nearly 7,000,000 tons less than production of the previous year, a drop of about one-seventh. This misfortune has seriously affected the livestock industry and supplies for the army.

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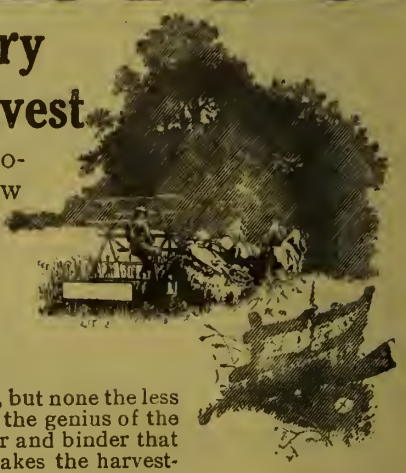

HAVE you noticed how discussion of the food supply situation seems to center around the number of acres it is possible to plant rather than around the harvesting of those planted acres?

It is an unconscious, but none the less wonderful, tribute to the genius of the inventors of the reaper and binder that the American public takes the harvesting of the greatest grain crop ever planted as a matter of course. The sole question now is, "How many acres can we plant?" The power and help required by the planting will be amply sufficient for the harvest where **Champion, Deering, McCormick, Milwaukee** or **Osborne** binders and binder twine are used.

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Largest Circulation of Any Farm Magazine in the West

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Mrs. Lee and Her Cabin

Woman Homesteader Aged Eighty-Six

ENJOYS THE EVENING OF LIFE ON THE PRAIRIE

MARGARET STEELE

OTHERS than ourselves who are readers of Western Farm Life may have been interested in a January number's sketch of The Oldest Woman Homesteader and may be interested to learn that there is one older.

We shall not declare her to be the oldest, but Mrs. M. A. Lee who is on a homestead twelve miles south of Las Animas, in Colorado, is eighty-six years old.

She is possessed of all her normal faculties, active and interested in all the world's work, for the records of which she eagerly reads her magazines and newspapers.

Mrs. Lee spent a long and happy portion of her married life on a beautiful Iowa farm near the little city of Mt. Pleasant; since then she has lived in cities: Topeka, Denver and Colorado Springs, but always her choice of a home has been the country home.

She says that the compelling desire of an active, healthful body and mind to do and be doing for one's self and others is not decreased by simply the numbering of years but rather is increased. Death and the marriage of children had broken up the old home and the old routine of life; when, after looking for the next thing that her hand might find to do, the opportunity to take up this land seemed to her worth while and satisfactory. So far she has not been disappointed. Her house is a neat little frame building, lined with beaver board and latticed with white pine. The ceiling is nine feet and all the little windows slide freely into the wall, providing means of perfect ventilation. The house is cozy and comfortable as are the homes of all the neighbors.

Many of the frame dwellings on homesteads here are built with roofs shaped like those of a railroad car. Boards are then nailed around the edges of the roof, boxing it in. This space is filled with earth which greatly helps to keep the rooms cool in summer and warm in winter.

I do not know that it was from the native little animals of the plains that mankind learned so to protect himself from the heat, but there is a cunning little lizard which I have more than once surprised in an enfolding blanket of earth, when the sun is hot. He jumps wildly up, scattering dust in every direction and darts away shaking himself as does the dog that the children had buried in the hay.

A daughter of Mrs. Lee's lives on an adjoining claim and her house is near her mother's. A grandson lives a mile and a half away. With the exception of an occasional visit at her daughter's and one call upon neighbors, Mrs. Lee spent fifteen consecutive months upon her claim, with but three day's absence.

One of those was a day's trip to Las Animas to exercise her right—duty rather—of suffrage on election day; one to attend a neighborhood Fourth of July picnic and the other, a most pleasant Christmas day spent with kindly homesteading neighbors. She had, however, not a few visitors during this time.

When first coming upon her land, she brought with her one hen and eighteen fluffy little chicks. This flock has been her constant and special care. Returns from it during fifteen months have been eight fries, two baked hens, two sold and seventy-seven dozen of eggs. The little flock remaining is just now laying more eggs than she can use; these go into water glass.

During a few of the past winter months, spent with her children in town, Mrs. Lee knit three sweaters for soldier boys. She has two grandsons in the army and for them or any other of our soldier boys she would gladly continue to do her [illegible].

Mrs. Lee hires all heavy work done and she verifies the statement made in the January sketch: "In homesteading neighborhoods there is always a spirit of mutual helpfulness." She finds her neighbors kindly, honorable and dependable.

Normal Acreage of Potatoes Urged This Season

ROCKY MOUNTAIN GROWERS DO NOT INTEND TO OVERPRODUCE

JUST thirteen months ago Western Farm life called for "a normal acreage of potatoes" for 1917. This call came from Lou D. Sweet, president of the Potato Grower's Association of America, now one of the U. S. Food administration officials at Washington, serving his country at "a dollar a year." His advice was not followed. We repeat it for 1918: "War conditions make it essential that our growers do their utmost to provide the nation with wholesome food at a reasonable cost. Therefore a normal acreage of potatoes should be grown and care should be taken in the handling of the crop in order that a full normal yield may be produced, thus reducing the high cost of living, as potatoes are one of the best articles of food and usually one of the cheapest.

"Potato growing should be attempted only by those who have ground suited to the production of potatoes and who are willing to give the crop the care and attention in handling that is absolutely essential to insure a good yield."

There are two reasons why 1918 will probably see a normal rather than an abnormally large acreage in Colorado, Utah and Idaho. Over production in 1917, coupled with transportation troubles during the winter, brought many growers a loss; (2) labor shortage experienced in 1917 and the abnormally high prices demanded by pickers will cause growers to plant only such acreage as they think they can safely get under cover next fall.

Six weeks or two months ago disaster seemed certain for the Greeley and other big western districts, but the active help given the growers by the Colorado Office of the U. S. Bureau of Markets is bringing the shipping season to a much better close than even the most optimistic anticipated during March. At that time storage cellars were full and a spell of unusually warm weather presaged an early ending of the demand for old potatoes. It was then estimated that not only hundreds, but perhaps several thousand cars of spuds would remain in the hands of the growers, to be thrown out of the storage houses to rot.

At that juncture everybody got busy; the growers to call for cars and the Office of Markets to place this demand before the Director General of Railroads. There was co-operation with the Quartermaster's department of the United States Army and bids were called for; inspectors were put in the field; growers began to take heart and along about April 1st, when the writer visited the potato districts of Greeley and Eaton, there were more refrigerator cars on the potato sidings than had been there at any time during the winter. Presently spuds began literally to pour out of the cellars and into the cars for the cantonments, where the drafted men are eating them now. This supply will have to take the soldiers well into the summer, until the new potatoes begin to arrive in quantities sufficiently large to feed Uncle Sam's men. These men need potatoes with food value; the new crop grown in the far south is watery and of poor quality compared with western stock.

Loading Spuds for the Cantonments, at Eaton, Colo., in April

The Greeley district alone has supplied 1,000 cars to the Army and other districts in the state were shipping them to cantonments late in April. For the week ending April 20, Colorado led all other states in number of cars shipped out, namely, 491. About May 1st the estimate was that only 700 cars of marketable potatoes remained in storage and the movement was still brisk.

Considering the size of the crop—the largest ever produced in the United States—and the transportation difficulties of the winter, the mountain growers feel fairly well satisfied, altho many of them lost money. They are in a mood now to grow "a normal acreage of potatoes" in 1918 and not plunge as they did last season. Planting time is

(Turn to page 16)

Study of Balanced Rations for Mountain Feeding

PLANNING CROPS THAT WILL CARRY CATTLE THRU NEXT WINTER

GORDON KENT, *The Mountain Farmer*

UP here in the mountains a cow that stands in a warm log barn on a winter night, eating a big forkful of oat hay, may congratulate herself and her owner may have a self-satisfied feeling that he is treating her right, but—that cow is getting twelve times as much heating nutriment as she is getting of flesh-forming nutriment, whereas if she is giving milk she should be getting one-sixth as much flesh-former as heating feed.

In other words, she is only half fed as to protein. And the cow that is eating alfalfa and nothing else is only being two-thirds fed as to carbohydrates. It is not enough to give a cow enough. Her feed must be made up of the right proportions of food elements. A meal of roast beef without potatoes or vegetables would not suit the farmer, nor would he be happy with six or eight boiled eggs and nothing else. If his wife cooks him an all-round balanced meal he certainly ought to feed his cow a balanced ration.

To feed a balanced ration we must plant a balanced ration. Before he plants in the spring a man should figure how much feed, and especially how much of each particular kind of feed he is going to need next winter. How else can he put in the proper acreage of each crop? It takes calculation and foresight to come out even. With the utmost care we may not strike it exactly. But without it we are certain to miss.

If a man comes into the fag end of the winter with plenty of heating feed and very little flesh-forming feed, he will either have to buy high protein feed or will have to feed a lop-sided ration. The latter is bad for the stock. The former is bad for the department of farm finance known as "cash in hand."

What feeds are available? In what proportions must they be combined for the best results? What tonnage of each will be needed? What acreage will be necessary to produce the right amount?

These questions must be answered before a man can plant or even order his seeds if he is to know what he is about.

The main feeds at our disposal are oat-hay, alfalfa hay and rutabagas. Table 1 shows the analysis of these feeds. Note that alfalfa is strong in protein or tissue-building elements, while oat-hay is strong in heat and energy (carbohydrates). In alfalfa over one-fourth is protein. In oat-hay less than one-eleventh is protein. Of the rutabaga only about one-tenth is digestible and nourishing, but its succulence makes it invaluable. It is a mighty wholesome winter substitute for the green grass of early summer. The rutabaga, carrot, turnip and potato should have the place accorded to silage in dairy sections in general. The rutabaga is the best yielder and the best keeper of all the roots, and the main crop for winter feeding. Turnips and carrots have so near the same food value that the same quantities may be fed. The potato, however, is so much heavier in starch that it should be carefully counterbalanced by bran if fed in any quantities.

A sufficient acreage of alfalfa is often lacking and cannot be established in one season like a crop of rutabagas, so I include bran in the table as the nearest substitute.

Now let us apply our mountain rations to the needs of a man who keeps Jersey cows and markets his feed as butter, a plan often followed by ranchers where retailing milk or shipping cream would be inconvenient or impractical.

Suppose the cows to weigh eight hundred apiece and to give about two gallons of milk a day. This is a little over sixteen pounds. For such a cow the feeding standard allows twenty-two pounds of dry matter, of which eleven pounds should be digestible nutrients. This eleven pounds should be made up of nine and a half pounds of heating elements, and one and a half of flesh-forming elements. The proportion should be six times as much heating as flesh-forming.

These conditions are met by feeding ten pounds each of alfalfa-hay, oat-hay and rutabagas, as shown in Table 2.

For another cow, say a younger one in her first milk period, weighing 700 pounds and giving eleven pounds of milk a day, the ration would be different. She does not require as much feed nor as high a proportion of protein. Table 3 shows her requirements.

The feeding period may be six months or it may last 250 days. So each cow will need 2,500 pounds of alfalfa and a like amount of oat-hay and roots. How many acres will it take to produce the amount of each crop needed by the herd?

Each rancher has to work this out for himself, basing his estimates on his knowledge of the productivity of each particular piece of land. Record yields don't go in advance calculations. Good rutabaga land may have produced twenty tons to the acre. The best bottom land will yield four tons of oat hay to the acre. But one dares not run any chances on an unfavorable season, nor on an untried piece of ground. Figure how many acres you need on an average yield, then allow a good-sized margin. Caution and prudence always come out ahead of a happy-go-lucky optimism.

If an acre of oats produces 5,000 pounds, and an acre of alfalfa produces 3,000 pounds and an acre of rutabagas produces 16,000 pounds then ten cows will need five acres of oats, eight acres of alfalfa and one and a half acres of rutabagas. Seeding oats at eighty pounds to the acre one will need four hundred pounds of seed oats. About two pounds of rutabaga seed will be enough.

A surplus is always safe. Too little feed and stock going hungry is the very devil. I was talking over this business of estimating what feed it takes with an old rancher this winter. If you don't take his advice literally, at least learn its lesson. Thousands of head have died to teach it. He said: "Figure what you need and then double it."

TABLE 1
Analysis of Mountain-raised Feeds and Bran

KIND OF FEED	Amount	Dry Matter	Digestible Nutrients	Protein	C'bhydrates	Ratio
Alfalfa Hay	100 lbs.	91.6	53.3	11.0	42.3	1: 3.8
Bran	100 "	88.1	57.5	12.2	45.3	1: 3.7
Oat hay	100 "	91.1	54.1	4.3	49.8	1:11.6
Rutabagas	100 "	11.4	9.7	1.0	8.1	1: 8.1

TABLE 2
Rations for a Cow 800 Pounds, Giving 16½ Pounds Milk

KIND OF FEED	Amount	Dry Matter	Digestible Nutrients	Protein	C'bhydrates	Ratio
Standard		21.6	11.12	1.6	9.52	1:6
Alfalfa	10 lbs.	9.1	5.3	1.1	4.2	
Oat hay	10 "	9.1	5.4	.43	5.0	
Rutabagas	10 "	1.1	.9	.1	.8	
Total		19.3	11.6	1.63	10.00	1.61

TABLE 3
Rations for a Cow 700 Pounds, Giving 11 Pounds Milk

KIND OF FEED	Amount	Dry Matter	Digestible Nutrients	Protein	C'bhydrates	Ratio
Standard		17.50	8.60	1.12	7.49	1:6.7
Oat hay	12 lbs.	10.9	6.49	.52	5.97	
Bran	4 "	3.53	2.30	.49	1.80	
Rutabagas	6 "	.68	.58	.06	.49	
Total		15.11	9.27	1.07	7.26	1:6.8

Figures Show Value of Cow Testing Association

CONSTANT IMPROVEMENT IN HERDS OF THE ARKANSAS VALLEY

HAROLD J. RYAN, *Cow Tester*

THE day is not far distant when the Arkansas Valley of Colorado will be known as the home of the spotted cow. Climatic conditions, feed and market make this section particularly well adapted to the dairy industry.

One of the important phases of this industry is the work of the cow testing association in assisting the dairyman to feed properly balanced rations, feed for most economical production, and to weed out the unprofitable cow. The Arkansas Valley association has increased the profits of herd owners many dollars since it was started fifteen months ago. It is the oldest of present active associations in the state. The accompanying table shows the increase in production for March, 1918, over March, 1917, in four of what are at present among the high herds:

HERD	Av. Milk per Cow, Lbs.	Av. Butterfat per Cow, Lbs.	No. Cows in Milk	No. Cows Dry
Amity Canal Model Dairy—				
March, 1918	925	30.55	35	5
March, 1917	764	25.76	28	2
Jens Jensen—				
March, 1918	884	30.06	19	3
March, 1917	444	17.97	14	2
Geo. D. Shell—				
March, 1918	860	31.20	14	1
March, 1917	550	18.16	13	1
Harry Heath—				
March, 1918	821	26.42	21	0
March, 1917	776	26.40	17	0

At least part of the credit for the increase is due to the association work. The heaviest grain feeders are those showing highest production; however, more attention is being paid to individual requirements of the cows in these herds just mentioned.

Twenty cows in the association produced 40 lbs. butter fat or over for March, which was figured on a basis of 28 days. The high cow in milk production gave 1,557 lbs. in 28 days. Four head were sold from one herd because they failed to show a profit consistent with the cost of handling.

One herd showed an increase of 27½ per cent in milk production in the month of February, over the month of January. This increase was due to a change in the ration involving very little more expense. Exactly the same cows were on test, and none had freshened.

"Dairy Day," held March 14 in Holly, brot out the fact that we have some very good individuals, as well as some excellent herds, in the county. The show was well attended and showed a good growth over the 1917 show.

Two important sales were held in this locality this spring, and the value of records was proven beyond a doubt at these sales. At the second sale, card folders were used. These were distributed in advance of the sale, thus giving the prospective buyer an opportunity to study the production of individuals before the sale. Wagner & Gilbert did some work in devising this form of record, while C. B. Ray hit upon the idea of the folding card. Mr. Ray states that from the standpoint of the sale, and from the standpoint of the man who milks for profit, the association is of inestimable value. The latter has sold stock in the valley for years and is in a position to know first hand what a herd with a record means to the owner.

Dairy Barn, Amity Canal Model Dairy

New Cow Testing Association

The three counties bordering Denver have formed a tri-county cow testing association to test out individual herds of cows for production and the tester has already begun the work of testing some of the herds. Twenty-six herds in all will be included in the association and once each month the tester will call on each of these dairymen and will remain at the dairy for one day, at which time he will weigh up the milk from each cow both night and morning and will make a butterfat test of the milk. He will also weigh feed and estimate cost of production. These records will be kept for a year and each dairyman will know just exactly which are his boarder cows and which are his money-makers. The testing of the individual cow is the real foundation for the greatest success in dairying. The old answer that "I milk my cows and I know which ones are paying and which are not," has proven false so many times that some of the best dairymen are confessing that the only sure way to tell a good cow is the Babcock butterfat tester with production records. With high priced feeds of the present time a dairyman will not be able to continue in the dairy business unless he has good production cows, and he can only have same by eliminating the cows of poor production, and he will only know the cows of poor production by the records.

The Agricultural Bureau of the Denver Civic Association is co-operating in this work by furnishing an auto and the State Dairy Commission is co-operating by furnishing the complete testing outfit, thus the only cost to the dairymen is $1.75 per cow for the year.—Adams County Exchange Bulletin.

Dr. Glover Advocates the Use of Horse Meat

SAYS OBJECTIONS ARE BASED ON SENSELESS PREJUDICE

GEORGE H. GLOVER

Dr. Glover was requested to write an article for Western Farm Life discouraging the use of horse meat. He took the opposite course and wrote strongly favoring its use, and declaring that objections were based either on esthetic or selfishly commercial grounds. We do not agree with his views, but in order to open the argument, the article is published and readers are invited to comment as they see fit. Statements have emanated from several agricultural colleges in the last few months advocating the use of horse meat. Markets for its sale have been established in several eastern cities, and the traffic has been sufficient to cause it to be noticed in official reports of the United States Bureau of Markets. We are convinced that these efforts are misguided and uncalled for in the face of the critical condition of the meat production industry. The demand for meats must be left to the cattle, hog and sheep grower to supply without interjecting an additional factor tending to demoralize the industry, instead of to help it.—Editor.

RECENTLY there has been considerable agitation respecting the use of horseflesh as human food. Considering the fact that food in abundance is a dire necessity at this time and that there are already several horse markets legalized in this country, and more contemplated, the use of horse meat for food has become a real vital issue. There are four important considerations in connection with the use of horse meat for human food, none of which should be overlooked or treated as of trivial importance.

Palatability

The objection to horse meat is purely esthetic. The meat of the whale and shark, once despised because of their cannibal existence, is now relished, indeed is considered a delicacy. Livers, brains, lymph glands, intestines, are all objected to esthetically, but necessity forced the issue. The meat of the prairie dog is both palatable and wholesome. If this animal had fortunately been named the prairie squirrel, we would not now be devising ways and means to exterminate him, for we would be in the position of the Maori chief, who being asked about his enemies, replied, "I have no enemies, I have eaten them all." Many things long neglected are now being utilized for food. I have before me a bulletin which advocates the growing of sunflowers for ensilage. The love-apple (tomato), now a staple food, was for a long time grown as an ornamental plant and as a curiosity. True, it belongs to a poison weed family; so does the wonderberry and the potato.

It is difficult to see wherein we can have a well-founded antipathy to horse meat if we stop to consider the cleanly habits of the horse and the food that he eats. He lives entirely upon the richest and cleanest cereals, the most succulent grasses, and will go for days until almost famished before he will drink stagnant water. France is one of the older civilizations and her people have developed the finer sensibilities, and in all that pertains to a high appreciation of the esthetic, they are surpassed by no other nation. We have been in the habit of going to Paris for our fashions. The French people have long eaten horse meat, and by many it is preferred to all other meats.

Health

The horse is healthier than the cow or pig and has less transmissible diseases than any of the flesh-producing animals, barring possibly the sheep. The horse is practically immune to tuberculosis, while 9 per cent of hogs and 4 per cent of our beef cattle under federal inspection are condemned as unfit for food. With a mortality from tuberculosis that is decimating the human race, and in this country where less than half of the meat consumed is subject to any sort of inspection, we are facing a problem that must eventually be met by drastic measures. Horse meat is easily digestible, is wholesome and safe.

Competition in Meat Production

If horseflesh is used for food, it will mean a decreased demand for, but not necessarily a decreased consumption of beef, pork and mutton. It will simply mean that our people at home and our allies abroad will be better fed. It will help to win the war.

One conscientious objector, overlooking the importance of the "army behind the army," and forgetting for the time being that self-interest must, during this crisis, be subservient to the one proposition of winning the war, expressed his sentiment in the following words: "Personally I feel that we are eating enough varieties of meat now and that our meat producers are having a hard enough time in keeping ahead of the game without being obliged to suffer new competition by the slaughter of discarded, undersized and generally useless horses. Would you like to eat a pot roast with potato pancakes made from a rump of a $5 steed?"

Necessity will not be balked by the self-interests of the producer. There is a demand for meat and the producer must not and should not expect to revel in high prices while we are fighting to save the world from autocracy and millions are hungry, or starving, in Europe. There is no possibility of horse meat coming into general use in the near future. Cowmen, sheepmen and hogmen need have no fear that all of the old, discarded and generally useless horses are going to be rounded up, slaughtered, and thrown on the market in competition with their products, this year or next; the use of horse meat must come gradually, which it will. This thing will necessarily come slowly, and as prejudice against horse meat subsides, the producer will have ample time to adjust his business to the end that he may find the growing of horses for food as profitable as any other, and he will be in on the ground floor.

A War Necessity

How long shall we continue to condone a moral wrong because it is an established precedent and because of a foolish and groundless sentiment? We have a penchant for following the "calf paths of the mind." The precedent thing is not necessarily the right thing. Our veneration for precedent is worthy of a better cause. This war is teaching us many useful lessons, not the least of which is economy. We are now paying the price of our past prodigality and wastefulness. The western plains bear silent testimony to the wholesale death of animals from starvation and neglect. With cattle under old range conditions, every summer was a feast and each winter meant a famine. Cows and even heifer calves have gone to the block, and now we stand aghast at our food shortage.

In the war-ridden countries food substitutes are saving the day. In this country we are now getting our first regular ration of food substitutes but they are in the main wholesome and palatable. Food substitution in the fighting countries of Europe means something very different, and this thing may be in store for us in the very near future. In our large cities, even now, the high price of beef, pork and mutton has made their consumption almost prohibitive for the poor., while pneumonia, tuberculosis and other diseases stalk in the wake of the insufficiently nourished. A rump roast of horse meat and potato pancakes would not only look mighty good to many an American today, but it would be consumed with all of the mad relish and gluttony of a famished denizen of the jungle, by many a starving refugee in the war-scourged districts of the Orient.

Because we who are well fed decline a horse pot roast, is there any sane argument why we should deny it to those who want it? Let us not forget that there are many foreigners in this country who must be fed and who from habit do not have a natural aversion to horse meat. Certainly we cannot consistently deny wholesome horse meat to these people. Then why not legalize horse markets in our large cities at least?

The Yankee Loves Pork

It has been fully demonstrated that we Yankees dearly love hog, and that is why we eat so many of them. The hog, fed on garbage and offal, wallowing in the filth of contaminated pens, constitutes our favorite meat. From the hog we contract tuberculosis, tapeworms, trichina and other diseased conditions. Horse meat transmits none of these diseases to the human. There are thousands of horses living under the healthiest possible conditions on our western plains that might constitute no meager food supply were it not for the sickly, senseless sentiment against eating horse meat. "Consistency, thou art a jewel."

We have our wheatless days, our meatless days, and smokeless days seem imminent as an economic necessity, and other days are coming on before this thing is over. We are sending up special petitions on high for more abundant harvests when at our very door is a possible food supply that our unwarranted prejudice has thoughtlessly eliminated.

The only argument presented is, that we are not in the habit of eating horse meat, we are not obliged to eat it, and by the eternal we are not going to eat it. This argument is in the first line trench and seemingly hard to dislodge, even tho it has no weapons to defend it. The stories we read of down-and-out hack horses in Paris finding their way to the horse markets have no doubt stimulated the prejudice in this country, but we must remember that aged cows and bulls are not always consigned to the fertilizer tank, if they are healthy, even in cultured America. Horse markets should, of course, be subject to the same efficient meat inspection regulations that now prevail under federal supervision.

Program for the Agricultural Summer School

SHORT PRACTICAL COURSES IN VARIOUS FARMING LINES

OPPORTUNITY for special training along various lines of rural leadership is offered by Colorado Agricultural College in the program for special summer courses during the period of June 3 to July 12th, inclusive. To meet demands caused by the war special courses have been provided for certain lines of service. In addition to the regular collegiate summer session, which will be up to its usual standard, there will be a six weeks' course for extension workers and a number of opportunity courses to fit for community and national service.

The demand for qualified extension workers is today much greater than the supply and a course is offered in this work to provide definite training for young men and women who are attracted by it. The opportunity courses will reach many phases of agricultural and industrial life and will be especially helpful to teachers, since the war is calling upon the schools for more and more community, state and national service. They will also be helpful to those desiring to fit themselves for agricultural or industrial work. The need for increased food production and conservation because of the war has created a call for community leaders and to supply training for this type of leadership one week courses will be offered in gardening, community organizations, food conservation, and cooking. During the week of July 8 to 13 there will be a conference of all extension workers of the institution. This conference will come during the last week of the regular summer session.

Collegiate Summer Session

Courses of collegiate grade for which collegiate credit is given in science, mathematics, modern languages, agriculture, engineering, home economics. The courses are designed for teachers, college students desiring to shorten the time for earning a degree, and others seeking a technical training.

Tractor and Auto Engineering

The course in tractor and automobile engineering is designed for those who desire to become proficient as repair men and operators of farm tractors, trucks and automobiles.

Extension Workers' Course

A course for those desiring to enter extension service and designed to give training in the various forms and methods of that work in agriculture, rural engineering and home economics. Basic work in rural sociology and organization will be given and some of the leaders in agricultural education have been engaged for special lectures upon extension instruction in agriculture and domestic science. There will be demonstrations by extension workers in county agent work, home demonstration extension schools, farm bureau organization, reports and office systems, photography and chart making and writing for publication. This work assumes that the student has had technical training in agriculture or domestic science and is desirous of taking what might be termed an intensive training course in pedogogy and methods of extension teaching.

There will also be a course for library workers; a course for community leaders, June 10 to 15, and opportunity courses in telegraphy and radio operation for drafted men, June 3 to July 12; courses in gardening especially designed for city garden workers, June 3 to 8; food conservation course with instruction in harvesting and storage of vegetables, canning, drying, evaporating and brining, July 8 to 13.

Among the lecturers of national prominence who have been engaged for these sessions are Prof. T. N. Carver, the noted economist, of Harvard University; Dr. Kenyon L. Butterfield, President of the Massachusetts Agricultural college; Dean Eugene Davenport of Illinois Agricultural college; Dean E. C. Johnson of the Extension Division of Kansas State Agricultural college, and others.

Those desiring to enter may obtain catalogue on application to Colorado Agricultural college, Fort Collins.

Cattle Feeding Experiment

The experimental cattle fed by the University of Nebraska the past winter were marketed in Omaha April 9th. There were five lots of these cattle with ten animals per lot. They sold at from $13.50 per hundred to $14.85 per hundred. The prices received were from 75 cents to $1.45 per hundred higher than appraisals made upon the 30th of March, due to the fact that the market on this grade of cattle had advanced that much during the ensuing ten days.

Lot No. 4 maintained its lead in net profit per steer by a big margin. These cattle were fed on snapped corn, cottonseed nut cake and alfalfa hay. They sold for $14.50 per hundred and weighed 1,153 pounds in Omaha. This made the actual net profit $19.85 per head.

Lot No. 3 ranks second in net profit per steer. They were the best finished cattle of the entire experiment and as a result sold for the highest price, namely, $14.85 per hundred. They likewise had been the high gainers of the experiment, showing a daily gain of 2.87 pounds. They were fed on ground corn, ground alfalfa and cottenseed nut cake. They did not show as much profit as the cattle in lot 4, however, owing to the fact that their gain was somewhat more expensive.

Lot No. 1, fed on shelled corn and alfalfa hay, ranks third in a total net profit per steer; namely, $8.23. These steers sold for $14.50 and weighed 1,173 pounds in Omaha.

Lot No. 5, the silage fed cattle, dropped to fourth place in net profit. This is a divergence from the first estimated profits given out at the time of the cattle feeders' meeting, which were based on figures available at that time. Then it looked as tho these cattle would rank second in profit to lot 4 However, they shrunk fifty pounds in transit as compared with an average of but twenty pounds shrink on the other four lots. They sold for $13.50 per hundred, which is a dollar or more below all of the other lots. They did not hold together well and showed their lack of firmness when they reached the market. Their net profit was $7.05 per head.

Lot No. 2, fed the same as lot 1, with the exception that some cottonseed nut cake was added, ranks fifth in net profit; namely, $5.56 per steer. They were sold at $14.50, the same as lot 1, altho at the time of the appraisal made at the University Farm these cattle were considered 15 cents per hundred better than those in lot 1. They did not gain quite as rapidly as lot 1, and show a somewhat more expensive gain.

The cattle were slaughtered April 9th and the hot dressing percentages are given herewith: Lot 1, 52.3; Lot 2, 58.8; Lot 3, 61.4; Lot 4, 60.9; Lot 5, 59.2.

It will be noted that lot 1 showed a relatively high dressing percentage, especially as compared with lots 2 and 3. This may be accounted for by the fact that lot 1 shrunk somewhat more than did the cattle in lot 2 and lot 3. Lot No. 5, it will be noted, returned a dressing percentage of 59.2. Considering the fact that these cattle shrank 0 pounds in transit in comparison with an average shrink of but 20 pounds in the other four lots, we would naturally expect a higher dressing percentage from them. It will be remembered that lot 5 was the group of cattle fed without corn, their average daily ration being 52 pounds of silage, 4 pounds of cottonseed nut cake, and 2 pounds of alfalfa.—L. F. Gramlich.

More on Sunflower Silage

After three seasons of investigational work on Russian sunflower silage, the Montana Experiment Station, located in a high mountain valley at Bozeman, has demonstrated that one average acre of sunflower silage yielded 25 tons of silage, which proved to be a very good roughage for dairy cattle.

A silo was opened in March, 1916, and two lots of seven cows each were fed alternately grain and clover hay against grain, clover hay, and sunflower silage. The grain and clover lot showed an average gain in body weight of 11 pounds, and produced 1,382 pounds of butterfat in 33.37 pounds of milk on an average daily feed of 13 pounds of grain and 21 pounds of clover hay. The grain, clover, and sunflower silage lot showed an average gain in body weight of only 6 pounds, and produced 1,459 pounds of butterfat in 34.35 pounds of milk on an average daily feed of 13 pounds of grain, 12 pounds of clover hay, and 34 pounds of sunflower silage.

With a slight difference of production in favor of the sunflower silage lot, 3 3-4 pounds of this silage replaced a pound of clover hay. This is not quite the same ratio as corn silage to alfalfa.

The crop was planted in rows 28 inches apart at the rate of 20 pounds per acre and gave an average yield of 25 tons of silage per acre. Frequent cultivations were given during the early stages of its growth and the silage cut when 5 per cent of the flowers were in bloom.

Russian sunflower silage may solve some of the feeding problems of our high altitude districts. Further information may be obtained from C. N. Arnett, Experiment Station, Bozeman, Montana.—T. E. Leiper, Colorado Agricultural college, Fort Collins, Colo.

There are many substitutes for wheat flour but no substitutes for peace

Healthy Vegetables

The U. S. Dept. of Agriculture recommends that you rid your seeds and soil of infection before planting, with the greatest known disinfectant—

FORMALDEHYDE
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It prevents potato scab and black-leg that attacks beets and other vegetables. It guards against onion rot and onion smut and smudge, cucumber root rot. It prevents mould in celery, lettuce, parsnips and other covered seeds when applied to the beds before planting. One pint bottle of our Formaldehyde costs 35 cents. Big scientific book with full directions sent free upon request.

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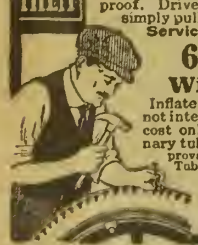

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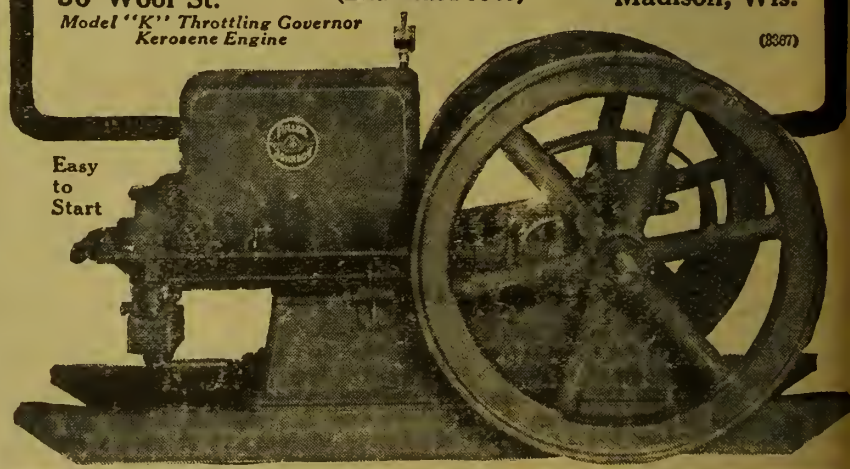

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How I Raised the Champion Pig

STATE WINNER TELLS STORY OF SUCCESS

RONALD MILLIGAN, Colorado Pig Club Champion

I BOUGHT a pure-bred Duroc-Jersey male pig from Judson Solomon of Olathe, Colo., for $20. His name was major. Mr. Solomon and papa selected him for me. He was farrowed March 17, 1917, making him 3 months 10 days old when received, June 27th. He weighed 59½ pounds.

Feed was very high and I hated to spend my money for it, but I bought corn-chop and bran and began doing my best to make him grow. He was very quiet, so after a few days I turned him out and he ran at large from then until nine days ago, when he began to pull roasting ears from the cornfield and we had to shut him up.

I was afraid Major would not gain fast enough to pay for his feed, but when our club leader, Mr. Fauber, came out and weighed him, I found that he had gained 12½ pounds in eight days, which I thought was very good. He was weighed again July 28th and showed a gain of 34 pounds in 23 days.

I had kept an accurate account of the feed and its cost and, knowing the price, found that he was quite a little more than paying for his feed. So I increased his ration as he grew larger.

He was weighed August 24th and at the close of our contest Sept. 18th, each time showing a gain of a little over 1½ pounds per day, and for the entire contest, a period of 82 days, he gained 130½ pounds, or an average daily gain of 1.59 pounds.

The total cost of feed, including pasture, was $15.90, showing a cost of 11 cents per pound of gain.

This is Ronald Milligan and the Pig He Raised

Major's total cost, including what I paid for him—feed, value of pasture, and labor—was $36.86. I was offered $50 for him at the Montrose county fair. Therefore he represents a net earning for me of $13.14.

The United States Department of Agriculture has detailed Mr. J. T. Tingle as organizer for pig clubs in the state of Colorado. He works in cooperation with the Agricultural college and is meeting with success in all sections of the state. Breeders of hogs are doing everything possible to encourage the work, which means increased pork production and is, therefore, right in line with the government's plan for keeping the food supply for the armies of this nation and its allies up to normal. In counties having agriculturists Mr. Tingle works thru that channel, and in other counties he gets the support of the superintendent of schools in organizing clubs.

In addition to producing pork, the boys and girls who join these pig clubs learn to keep accurate account of their operations and they learn to feed scientifically, so as to produce the quickest and most economical gains. Communities interested in establishing this work may have further information by addressing Mr. Tingle, care of the Agricultural college at Fort Collins.

Shove Him In

They were burying the German dead, when one Tommy called over to his mate:

"Bill, this bloke's a-moving. What shall I do?"

"Shove him in," growled Bill.

"But," went on his mate, "he says he ain't dead."

"That doesn't matter," answered Bill; "you can't believe a word the bloomin' Germans say. Shove him in!"—Titbits.

Needs the Air

"Why is this cheese so full of holes?"

"That's all right. It needs all the fresh air it can get."

"Catch 'em for Uncle Sam," is the fisherman's slogan.

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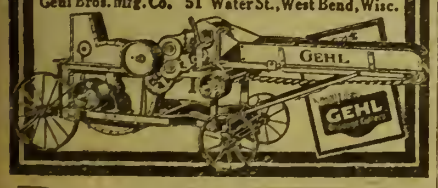

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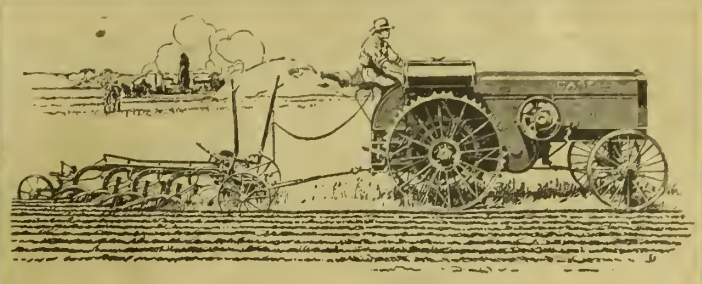

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Don't Forget the Forage

The agricultural survey of Colorado just completed shows a remarkable increase in livestock, especially in breeding hogs. It also shows an increase in acreage of wheat. These facts are interesting and encouraging. But there is one thing which the survey brings out that will prove hurtful if the lesson is not heeded immediately. It is the fact that no apparent provision is being made for additional forage to take care of the increase in livestock. This is the last call for acreage increase. We are planting right now, and within the next two to three weeks the bulk of the crops go into the ground in Colorado. To overlook the necessity for corn for silage, sorghum, sudan grass, the kafirs, millet, oats for hay, barley and other forage crops would be a fatal blunder. We need human food, and meat is one of the most important for the mountain country. We can't have meat without forage. We can't have milk without forage. We can't feed the wheat or the beans without running counter to the demands of the government. So don't forget the forage.

✦ ✦ ✦

Able-Bodied Idlers

Reports in the press lately have brought knowledge of much activity in suppressing pro-German utterances. Drastic steps have been taken by many communities to impress upon enemy aliens and misguided citizens the fact that America is in the war for a purpose and that this purpose shall not be hampered or thwarted by enemy activities at home. There is one form of slacking, however, that is being overlooked. We would not advocate tar and feathers as a remedy for this particular phase of poor citizenship, but constructive measures. Every community numbers amonh its citizens able-bodied men above draft age who are following no particular business, because they have "enough to live on." These men, if in good health, should be compelled to take up some useful occupation in the service of the country. If they cannot be used in clerical occupations by the government, or in munitions or war materials plants, let them find places on farms. This is no time for able-bodied idlers of the male sex, no matter whether they need to work for a living or not.

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Let Broomcorn Alone

Inquiries are being received from southeastern Colorado and northeast New Mexico regarding the prospects for broomcorn prices next fall. The answer is: Nobody on earth can tell what brush will be selling for five months from now. Anyhody familiar with the fluctuations of this product for a period of years will conclude that even if war prices on brooms continue, it is no safer to increase the acreage this season than usual.

Broomcorn has its advantages as a homesteader's crop, especially in sections remote from transportation, because three bales on a wagon usually bring enough cash to justify the long haul. Broomcorn has been a favorite sod crop in some sections of the new country. It will stand a lot of dry weather. But it is true of broomcorn as of other crops—that the grower cannot expect good brush by neglecting ordinary methods of tillage.

Some sections where broomcorn is grown regularly report exceedingly high prices for the 1917 crop. Other sections, especially where the acreage was suddenly expanded last spring, report that there has been no sale at all, due to the freight embargo or other causes. This is largely a repetition of broomcorn history in the southwest. There are only a few districts in the United States that have found a consistent market for broomcorn year after year, and these are the districts that, because of peculiarly favorable climatic and soil conditions, and expert care in growing and harvesting, have produced the highest quality of brush. The great bulk of the crop has been carelessly produced from poor seed, on lands that might better be used in the production of food and feed crops.

Our advice to the farmer who does not know broomcorn is to let it alone and grow something that the world needs more urgently than brooms.

Colorado districts that are suited to broomcorn production and that have had marketing troubles, have been furnished with a splendid plan for organization and marketing, advanced by the Colorado Office of Markets. This plan should be followed, in order to avoid a repetition of disastrous experiences of the past.

✦ ✦ ✦

Grange Issues Statement

In order to clear up misunderstandings and make it plain that there is no connection between the Grange and the National Non-Partisan League, the National Grange has found it necessary to issue a formal statement, which appeared as the leading editorial utterance in the last issue of the National Grange Monthly, and which is herewith reproduced for the information of Grangers in Colorado and other western states:

Some of the best friends of agriculture in the United States who have proved by their works that their devotion to its welfare is sincere, are seriously disturbed over the spread of a movement in the Northwest which bears every indication of containing a positive menace to the highest progress of the real farmers of the country, and which is destined to injure the very cause which it professes to espouse.

Reference is made to the so-called Farmers' Non-Partisan League in several of the states in the Northwest, which by whirlwind methods, by extravagant promises and by radical pronouncements, has been gathering great momentum in some sections, while the movement is also gaining a foothold in some of the Eastern states. The very nature of the new organization does not point in the direction of permanence, nor does it contain those elements of strength that assure any abiding service to the farm people in any state; while the unfortunate entanglements this organization has permitted, with those whose purpose is clearly to undermine the American government, to reduce its fighting efficiency and to give aid to the enemy, is an indictment against the Non-Partisan League from which it can never clear itself in the estimate of patriotic, red-blooded American citizens, farmers and otherwise.

If the Non-Partisan League has not actually surrendered itself to disloyal practices, it has at least trifled with its reputation to a degree sufficient to put it under suspicion, in the eyes of every true American.

But the chief purpose of this article is to make clear that the Grange is not identified in any way with the Non-Partisan League and that the Grange stands sponsor in no way for its principles or its results. Efforts that have been made, in countless cases, to so entangle the Grange should be repudiated at every point, for the Grange and the Non-Partisan League are moving from absolutely different viewpoints and have no common basis. The Grange was here, doing valiant service for the farm people of the United States, long before this new movement of the Northwest was even dreamed of; and it may still be here after that movement has been forgotten.

The Grange is non-partisan in the true, broad sense. Its service is unselfish and continuous for the farm interests of America. The Grange seeks no class legislation or special favors for farmers, simply because they are farmers, but names as its supreme ideal "The greatest good to the greatest number." The Grange is absolutely loyal to its government and tolerates within its meetings and among its leaders no spark of even the suggestion of disloyalty. On these four decisive issues the Grange and the Non-Partisan League are as wide apart as if oceans separated them. Let this fact be here and now made clear to everyone, that whatever may be the future of the Non-Partisan League, no responsibility for that future rests upon the Grange or upon the real leaders of the Grange. As the two organizations go on the fruits of each shall prove it, of what manner it be.—National Grange Monthly.

✦ ✦ ✦

Local Option Herd Law

We received a letter the other day from an eastern Colorado farmer who had been asked to subscribe for Western Farm Life, saying that he would do so just as soon as this magazine favored the enactment of a herd law for Colorado. For his benefit and that of others interested we wish to make it plain once more that our attitude on this question has always been for the adoption of the local option principle, allowing communities to settle the matter according to their own conditions. Large sections of Colorado must remain under free range conditions. This applies particularly to the mountain sections, where not only a few large cattle raisers but literally thousands of small mountain farmers, with herds ranging from fifty to three or four hundred head, cannot, by reason of the broken character of the country, be forced either to herd their cattle or fence the range, which is open public land, and which is fit for nothing except grazing. It would be manifestly unfair to the mountain districts to attempt to force a herd law upon them; in fact, public sentiment and common sense forbid it.

On the plains this question assumes an entirely different aspect. There it is clearly one that local communities must settle according to majority vote, which can be done under a local option herd law, such as that for which petitions are now being circulated thruout the state. The measure which we fought in 1916 provided for a statewide herd law, and it was defeated by the people of the state for two reasons: it was not just to the farming interests of Colorado as a whole, and fraud was practised in securing signatures to some of the initiative petitions. The latter was brought out in a hearing before the state supreme court.

Regarding the manner in which signatures for the local option herd law are now being secured, we have no knowledge, but on the principle involved there is no argument. Majority rule is the only just way of settling this vexed question in counties where the interests of the small farmer and the range cattle man conflict.

✦ ✦ ✦

The Denver Stock Show next winter will be conducted strictly in accord with war principles. Excessive feeding will be ruled out and everything will be done to secure the best production of meat in the cheapest possible manner. The influence of the entire organization will be brought to hear to secure the best and cheapest production of meats of all kinds during the war period, and badly as they are needed nothing but absolutely temporary buildings will be constructed; this policy was unanimously adopted by the Board of Directors at its recent meeting.

The Branding Iron

Applied by Elias M. Ammons

The Manufacturing and Agricultural bureaus of the Denver Civic and Commercial association are organizing a company to try out the machinery recently sent here by the government to de-hydrate vegetables and fruits. If the plan proves successful it is expected that factories will be established in all parts of the state and that thousands of tons of needed foods will be saved from waste.

* * *

No American breed of cattle has ever been established. There is one very noticeable fact, however; while there are preferences as to color and breeds, growers generally are working toward the same type. Environment and food will, in time, exert a tremendous influence in fixing the individuality of the American steer, and thruout the mountain section where climatic and other conditions are best suited to the purpose, will be grown the best part of our meat supply.

* * *

The controversy over the price of sugar has resulted in a reduction of 40,000 acres below the normal amount planted in Northern Colorado; an average yield from this much land would supply enough sugar for Colorado, Wyoming and New Mexico. The shortage is especially regretable because of war needs and emphasizes once more the necessity of price adjustments early in the winter.

* * *

The government plan to give technical training to recruits at the educational institutions will be put into operation June 15th when about 600 men will begin courses in engineering, automobile and shop work at the Agricultural college, the State University and Colorado College.

* * *

Help to win the war by growing a pig.

* * *

I suppose, said the city chap, when you eat horse meat you will see all kinds of night mares!

* * *

Because of press of business the Kaiser has abandoned his visit to Paris.

* * *

The acreage of spring wheat has been increased in Colorado.

* * *

The National Western Stock Show association at its recent organization meeting inaugurated a movement to raise a large Red Cross Fund at the stock show next January. The plan is to have every community give one heifer calf for each 500 cattle owned. Classes are to be made for the exhibits and the stock is to be sold at public sale, the entire amount to go to the Red Cross. It is estimated that from one hundred thousand to two hundred thousand dollars will be raised.

Nothing but first class animals will be contributed. They are to be branded "C. R. C." for Colorado Red Cross. No doubt, great interest will be taken in the matter and as some of the finest animals in the state will be contributed, splendid prices will be realized. This will, undoubtedly, be one of the greatest features of the coming show.

Additional Crop Reports

Crop reports received too late for the issue of May 1st are given as follows:

Big Horn County, Wyo—Season farther advanced than last year, and not so cold. Much more rain and wet snow in April; unless rains soon cease, seeding will be delayed. Expect small increase in spring grains; our winter wheat acreage is very limited.—Allyn H. Tedmon.

Goshen County, Wyo.—Winter wheat condition, 85 per cent; limited acreage. About 12,000 acres spring grain seeded, expect 50 per cent increase. Spring is three to four weeks early and prospects were never better.—J. A. Helmreich.

Moffat County, Colo.—Winter wheat in good shape and acreage large. Expect increase in spring grain acreage. Season about one month ahead of last year; not so much moisture in soil, but ground is in good shape, especially the fall plowed land.—H. B. Kobey.

The return ticket for our boys in France will be secured largely through American savings of wheat, sugar and fats.

Comment by Farmer Putnam

COMES OUT STRONGLY AGAINST DOCTOR GLOVER IN REGARD TO THE EATING OF HORSE MEAT

WELL, I hope you-all enjoyed what Josephine said about me in the last number. I hain't got no reply to make. She kin have the last word. While I was laid up with my sore foot she cooked me the finest mess of pork and pintos and made the nicest corn dodgers I ever eat. That woman kin say anything she wants to about yours truly; as long as she feeds me I hain't a-goin' to try to gag her speech or her writin's. I believe in free speech as long as the grub is good.

I got a hard job before me this time. I come near quittin' when the editor sez, "Putnam, I want you to roast old Doc Glover."

"Looky here," sez I, "don't you know Doc Glover's one of the best friends I've got? Why should I roast him?"

Well, we had quite a argument, but the editor sez I got to comment on Doc Glover's hoss meat article, and I reckon Doc will have to stand fur it, because the editor is a stubborn feller that thinks nobody knows as much as he does about some things.

Glover sez whale and shark is a delicatessen and prairie dogs would be if we wasn't so squeamish about the name of the little critter. You-all kin read his article in this paper and he makes hoss meat sound good, but I'd like to know how much of it he has ett? How about it, Doc, do you speak from experience, or just from scientific knowledge? "Consistency, thou art a jewel!"

I don't take much stock in this here argument of his about the hoss not havin' them diseases that our food animals has, because as soon as we'd git to eatin' hoss meat it wouldn't be long till them vets in the packin' house inspection service would discover all kinds of new diseases that the hoss is afflicted with and that would be communicable to humans. The reason the hoss don't suffer with 'em now is that they hain't been discovered by the hoss doctors. Before a man or a animal kin have a disease it's got to be discovered.

Doc has got tears in his eyes when he pleads fur hoss meat fur them poor war sufferers, and I guess we'll agree it might be all right to send off to Europe, but we don't care fur none of it in Fort Collins, thank you! I'm afraid them is crockodile tears.

No, Doc, eatin' hoss meat won't help win the war, but it would help the beef and pork industry faster on the down grade. What we oughter to have from our professors is help to produce beef, pork, mutton and milk cheaper, because we got a condition to meet and not a theory. Puttin' a new meat in competition with what we got now won't help us produce more meat, but will make others git outen the meat-producin' business.

I hain't no learned man like Doc Glover, and the hair on my head and face shows that I hain't used my noggin so long and hard as Doc has. He's worn his head smooth by makin' good use of it, just like a plow that gits shiny when you give it exercise in the soil. But with all his learnin' I think some of us farmers kin be excused when we tell him a few things about farm animals that he's forgot.

About the time Doc was runnin' around on a Ioway farm barefooted and sneakin' off to swim in the Cedar River in April, farmers was still drivin' to town in ox carts. My dad used a yoke of oxen, and before he had them he drove cows in a team. He called 'em his dual purpose team, because they was supposed to give the family milk when they wasn't pullin' the plow or haulin' a load to town. By an' by people got so much better off that they raised more hosses and better hosses—the kind that could pull a load—and then you didn't see no more ox teams and no cow teams, exceptin' only among the poorest farmers. Lately the auto has come upon us and the hoss was afraid his days was numbered; then come the farm tractor and then everybody knew positive that hosses was about to die out. But since the war broke out we found out different. Millions of hosses is needed in the war just like they was needed in other wars, fur work that no auto or tractor kin do. And so it is on the farms; we need tractors fur lots of things and kin make good use of 'em, but they is work that nothin' but a hoss kin do, and farms where no machine yet invented kin do the plowin', harrowin' and such like as cheap as a hoss kin do it and do it as well and when you want it done.

So the hoss is a beast of burden, just like the camel in the desert, or like the ox used to be. Now we could eat our beasts of burden if we had to, but why eat 'em when we kin raise meat animals that we got a taste fur much cheaper and git 'em finished just right fur table use? The kind of a hoss that Doc Glover talks about as bein' in fine health, good flesh and fit fur a veterinarian to eat is wuth from $150 to $350. We kin raise and finish fat two or three good steers fur the price of one good hoss; two or three times as much meat that people are used to eatin' at a less price. The only kind of hosses that will be cheaper than beef is the kind that the junk dealer drives up Doc Glover's alley in Fort Collins, a-yellin' "rakes, olt iryun, rakes, olt iryun!"

Yes, they been eatin' hoss meat in Europe fur a long time, but it ain't the kind of French people Doc talks about in his noble tribute to our French cousins. Them hoss meat shops in Paris and Berlin has been sellin' the castoffs to the poor. Thank heaven, we don't have that kind of poverty in America, and we're goin' to win this war and see to it in future that they don't have the same kind of poverty in France and England that they has now. This world's gittin' better, and the war is the big fire that's a-meltin' the dross outen the human race. When it is all over and Germany has been wiped offen the map we'll furgit all about tryin' to eat hoss meat. My pussonel views is that this here so-called human race, by and by, will eat less and less meat of any kind. I think that's the only way to solve our packin' house problem; we don't seem to be gittin' anywhere with them investigations.

THOMAS JEFFERSON PUTNAM.

Eyeball or Highball

An old Scotchman was threatened with blindness if he did not give up drinking.

"Now, McTavish," said the doctor, "It's like this: you're either to stop the whiskey or lose your eyesight, and you must choose."

"Ay, weel, doctor," said McTavish, "I'm an auld man, noo, an' I was thinkin' I ha'e seen about everything worth seein'."

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These dams save the irrigator time, labor and expense, besides saving the lateral. They are a great improvement over the old wing or shoveling dirt into the lateral.

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This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR Pres. The Tompkins Cattle Co., Denver, Colo.

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We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

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Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Symptoms of Blind Staggers

Answer to G. B. Z., Prowers county: The specimen sent is what is commonly known as the ear tick, or spider tick (Rhyncoprium spinosum). These ticks infest the ears of horses, cattle and other animals. They cause much irritation and the animal shows much nervousness, with shaking of the head, or carrying the head sideways. However, the ticks did not cause the death of your horse. The symptoms given indicate blind staggers from digestive disturbances, possibly impaction of the stomach. The ticks can best be removed by applying olive oil, which closes the breathing tube of the tick and destroys it. It is well, however, to remove as many of them as possible with the fingers, or with small forceps.—Dr. George H. Glover, Veterinary Department, Colorado Agricultural college.

Oil Rights Reserved

I bought railroad land ten years ago and when they gave me a deed they reserved all mineral rights. Does that give them the right to claim the oil? Can I lease my place to an oil company and claim the oil?—S. P., Park county.

If your deed to the land reserves all mineral rights you have no right to give an oil lease on the place.

Dry Farming in the Big Horn

Answers to question from C. L. S., Thermopolis, Wyo., concerning chances for dry land farming in that part of the Big Horn basin:

The Big Horn basin of Wyoming contains many possibilities. In traveling thru that country in 1910 it seemed to me that, like many other basins and bottoms, it was sub-irrigated in places. This condition is quite common in Wyoming and Montana and will support alfalfa wherever it obtains. If you are interested in that country I should prospect it. If you find moist soil below the top two feet and on down, it is safe to infer that there is a water table at no great depth. Such land will raise almost anything, but whenever the subsoil is dry at depth all you have to depend on is the precipitation. Ten inches at Thermopolis would probably be worth as much as 12 or 11 inches in New Mexico, and they are raising corn, milo and other crops down there. Your best grain crop would be winter wheat, which could undoubtedly be raised by the fallow method. Winter rye is also a safe crop. The best late crops which should be tried out would be corn, amber cane and sudan grass. It is not at all improbable that even beans and potatoes could be raised on fallowed land.—E. R. Parsons.

When conducting my work as Wyoming state dry farming demonstrator, during the years 1905 to 1911, I visited the Big Horn basin several times and recollect on one occasion when visiting Thermopolis I offered to prove my assertions relative to so-called dry farming if they would furnish the necessary help. I offered to direct the work of plowing, cultivating and sowing land directly above an irrigating ditch, to prove that paying crops could be raised in that vicinity with what precipitation fell upon the earth in the shape of rain or snow.

The secret to do this is not a secret, but certain rules must be understood before success is obtained. Deep plowing is necessary, turning under all vegetation on surface soil; soil to be compacted by disk harrow (weighted if needed), set straight; soil not to be worked when wet. Summer till land for winter wheat or crops next year—which means storing up or conserving this year's moisture for next year's crops.

Maximum crops can often be raised in three seasons. Rotate crops on land with white sweet clover. This crop will pay you while it works and will keep up a big supply of organic matter in the soil to become humus, thereby making your soil more retentive of moisture, also making fertility in the soil available for crops that follow.

Relative to your question as to whether wheat, oats, barley, spuds, beans, sweet clover, corn, can be grown in paying yields on 10 inches of moisture around certain parts of the Thermopolis section by following the USUAL methods of dry farming—NO. But if you will follow the UNUSUAL methods—i.e., do your work with intelligence, and knowing the reason as to why this or that is done, answer—YES.—Dr. Vernon T. Cooke.

For Larkspur Poisoning

Answer to F. B., Larimer county, Colo., for treatment of stock suffering from larkspur poisoning:

Symptoms—The symptoms manifested in affected animals are similar to those of aconite poisoning. Cattle are most often poisoned, and the first thing noticed is stiffness, especially of the forelegs, and pronounced straddling of the hind legs in walking. The animal usually falls to the ground several times and the muscular movements become more and more irregular. There is drooling of saliva with frequent swallowing. Perhaps the most characteristic symptom is the quivering of the muscles, especially on the sides and legs. In fatal cases the animal dies in convulsions. There is not sufficient difference in the symptoms of poisoning by the different species of larkspur to warrant special consideration of each.

It is a well-known fact that animals are most often poisoned from eating larkspur when it is wet, after a rain or snowstorm, or in the early morning after a heavy dew or frost.

Areas that are badly infested with larkspur should be abandoned until the danger period has passed, which period will vary according to altitude, from the middle of June to the first of August. When limited areas are particularly infested with larkspur, the practicability of fencing and of digging the plants is to be considered.

Treatment—When an animal goes down from larkspur poisoning, it should be turned until the head is higher than the body, to relieve the breathing. Under no circumstance should attempt be made to drive the animal further. The benefit derived by bleeding the animal, as claimed by some stockmen, is questionable. When there is excessive bloating the rumen (paunch) should be punctured on the left side with a sharp knife (withdrawing it immediately after the puncture is made), or what is far better, with a trocar and cannula. This latter instrument, which costs but a dollar or two, should be kept at the ranch and carried by the range rider during the larkspur season. Potassium permangante, as a chemical antidote, is found to be very effective in larkspur poisoning, but the inconvenience of carrying quart bottles of the solution ready for use, renders it of little practical value.

Dr. C. Dwight Marsh has reported very satisfactory results from use of the following formula, administered hypodermically:

Physostigmin salicylate	1 grain
Pilocarpin hydrochlorid	2 grains
Strychnine sulphate	½ grain

Most stockmen are familiar with the use of a hypodermic syringe, having used it in vaccinating cattle for blackleg. A 4-dram, all-metal syringe will be the most convenient, and can be secured at any instrument house. The drugs can be secured at drug stores in tablet form, and after being dissolved in water, are ready for immediate use. The amount of each drug indicated in the formula is intended to be given at one dose for an animal weighing 500 or 600 pounds. One-half ounce of boiled water should be used to dissolve the tablets and two or three doses can be carried along with the syringe, for immediate use.—Bulletin 211, Colo. Ag. College, by Glover and Robbins.

Horse Had Thread Worms

N. A. S., Kit Carson county:

In answer to your inquiry, we are advised as follows by Dr. George H. Glover, head of the Veterinary Department of the Agricultural College:

The parasites sent to us are a specimen of thread worms known as Sclerostoma Tetracanthum. They are common to horses and mules when in an unthrifty condition, and the condition may be both the cause and result of the parasites. Parasites, both external and internal, thrive on an impoverished host. This particular parasite is a bloodsucker like the hook worm. In large numbers they cause anemia, hemorrhage from the bowel, and dropsy from conditions incident to unthriftiness.

The horse has but one stomach and no "paunch." Death probably resulted from some form of colic, possibly impaction of the stomach. The parasites may have been the remote cause of his death. A good way to fight worms and to avoid colicky conditions in horses is to keep the teeth in good condition, moderate work, and plenty of good feed. Sometimes it becomes necessary to give special treatment for worms before a horse will have any chance to improve in condition.

George Washington's Address

The teacher was hearing the history lesson, which dealt with the career of George Washington. Turning to one of the scholars, she asked: "James, what was Washington's farewell address?"

James arose with a promptitude that promised well for his answer. "Heaven, ma'am," he said.

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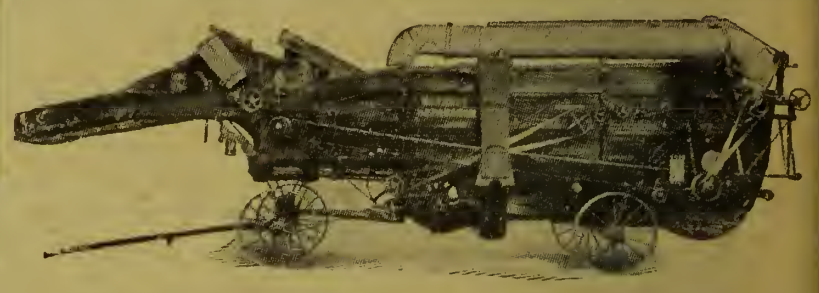

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GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Are Acquired Characters Inherited?

A great many dairymen rest secure in the belief that by unusual development of the milking power in the heifer, they can better the future of their herd thru this increased milking power being transmitted to their offspring. It is a question of considerable importance whether such inheritance occurs. If good feed, care, and management will create in animals modifications that can be transmitted to the next generation, then we should have a ready means of rapidly building up the productivity of our herds. There have been many arguments on both sides of this evidence, and in sifting evidence it is necessary to hold firmly in mind the established fact that improvement certainly is gotten by selection of variations occuring in the character we are trying to improve.

The heifer calves from any given cow vary in their productive ability; we retain for our herd the best of them. They in turn produce offspring of varying ability, and we retain the best of these. By means of such selection we succeed in getting an advance in each generation in the direction we are going. Applying this directly to the question of inheritance of acquired characters, we must be careful not to ascribe to such inheritance the advance gotten by selection in the manner described above. We know that high producing cows will produce some heifers with still higher producing ability, wholly without regard to the manner in which the cow herself is fed, if she has reached maturity. The question is, will extra care and feed and development of such a cow produce any higher average production in her offspring, than if she were not so cared for. A number of different classes of characters are to be considered in connection with this question.

The class which lends itself most readily to clear cut evidence is the class of modifications in the body known as mutilations; in other words, changes in the adult body produced by a removal of a part of the body, or the change of its shape by some outside force. Most people who believe that mutilations are inherited will cite one or two apparent instances of such inheritance, believing that such instances prove their case. Appearance of a malformation in the second generation corresponding vaguely to a mutilation of the parent is bound to occur in any large population just from the ordinary law of chance. The great argument against inheritance of ordinary mutilations is the common sense thought that if mutilations were heritable, after a war such as the one now being fought, and other previous great wars, the children of wounded or crippled soldiers would be a race of cripples. There is no real evidence that mutilations resulting from wounds of an ordinary nature are transmitted. It has been found by experiment, however, that certain operations affecting the trunk nerve systems cause diseased parts or malformations in the offspring, so it is our belief at present that mutilations which are so extreme as to affect the entire nervous system, or affect the whole being of the animal, may have some effect upon the offspring.

Instincts are often spoken of as inherited habits, but the evidence for this is not good. Habits arise out of repeated experience. Instincts are a physical response to certain stimuli, and all organisms having the same structure will respond in much the same way to the same stimuli. It is the organization of the body which is inherited and not a habit, and as the organization of the body arises from the stream of germ plasm, and not from characters acquired during the lifetime of the individual, instincts provide no evidence of the inheritance of modifications. The most common argument of stockmen is the one that the development of organs of the body results in a greater productive ability in the organs of the offspring. For example, one author attempts to show by trotting records that the offspring of a stallion produced during his later years, after he has been raced on the track and has developed greater speed, are, on the whole, faster trotters than those of his offspring that were produced during the early years of his life.

In studying these figures, however, we must remember that as a stallion gets a faster record and becomes better known, he is mated with speedier mares, and so the combination inheritance of the offspring is raised without any reference to the extra speed of the sire, due to training. Also, the colts from a stallion after he has developed higher records and has become well known will be given more attention and better training than the colts that were dropped before their sire became famous, so that the comparison of the records of the colts of any one stallion is not quite fair in this respect.

The same argument applies to dairy cattle. The measure of a sire is not altogether the average records of his daughters, nor the number of daughters that he has with high records, because there is a great difference in opportunity given sires. A sire that is well known and extremely valuable will be mated to only very high producing cows. As a result, the offspring from such a sire will show a much higher average production than the offspring of a sire equally good, who was kept in a small herd and not given as great an opportunity. This is true of dairy cows, as well as of horses, and all other classes of stock. While it is advisable to feed well and give good care to all good stock, yet we should not base our breeding operations upon the unproved assumption that this feed and care will cause greater production in the next generation. So far as present efforts go, we are safe in asserting that the only way you can get in the next generation, heifers with higher producing power, is to select for their parents, animals that have a high producing power.—G. E. Morton.

Operation for Spray Milker

Answer to E. M. H., Nebraska: So far as I know there is no remedy for a spray milker. The only thing likely to do good would be to split the teat with a teat splitter, which is an instrument that can be put on the inside of the teat, a small blade extended, and the teat cut down on the inside by pulling the blade downward. This probably should be done only thru the small muscle which surrounds the point of the teat in a circle, and which serves to hold the milk until pressure is applied to the teat. A teat plug would have to be inserted in the teat after the operation, so that the teat would be held open somewhat more than normal while the wound is healing. I do not advise the operation, however, as the teat is likely to heal with even a smaller orifice than before.—G. E. M.

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Cottage Cheese Demonstrations

In a previous number of this department we told of the work to be carried on thru the Extension Service of the Agricultural college whereby cottage cheese and its uses as food should come into its own, and form a most desirable accompaniment to some of the new breads. It has been the privilege of the editor to observe much of the work that Mrs. Roy Coffin has been doing in Washington, D. C., and is now to give to groups of interested women over the state of Colorado. Many Colorado mothers and friends of A Battery will be glad to welcome Mrs. Coffin who is the wife of Captain Roy Coffin, now with the boys "over there."

Mrs. Coffin makes you feel that cottage cheese is indeed a very important aid in winning the war, because of its place as a wholesome and attractive food. I am going to give you a few of the recipes, learned of Mrs. Coffin, and hope you may be able to serve some of them when you invite her home to supper, when she appears in your community:

Cottage Cheese Sausage

1 cup cottage cheese
1 cup dry bread crumbs or
½ cup cold cooked rice
½ cup bread crumbs
¾ cup peanut butter or
2 tablespoons savory fat
¼ cup coarsely chopped peanut meats.
½ teaspoon powdered sage
½ teaspoon thyme
1 tablespoon milk
1 teaspoon salt
¼ teaspoon pepper
¼ teaspoon soda
1 tablespoon finely chopped onion

Cook the onion in the fat until tender but not brown. Dissolve the soda in the milk and work into the cheese. Mix all other dry ingredients thoroly with the bread crumbs. Blend peanut butter and onion with the cheese, and mix them with the bread crumbs. Form into flat cakes, dust with bread crumbs or cornmeal, and fry a delicate brown in a little fat in a hot frying pan.

Variations..To utilize left-over cereals, use one cup of cooked rice, oatmeal or cornmeal mush with ¾ cup of bread crumbs.

Dry cornmeal or finely ground oatmeal may be used for stiffening the above mixture, but in such case it is better to form into a loaf and bake it in the oven about 25 minutes.

NOTE: Other seasonings may be used. Amount of liquid will vary. The mixture should be very stiff, since the cheese tends to soften it during cooking.

Cottage Cheese Loaf I

1 cup cooked rice (dry and flaky)
1 cup cottage cheese
½ cup ground peanuts
1 tablespoon chopped onion
1 tablespoon savory fat or drippings
¼ teaspoon soda
1 cup strained tomato
1 cup bread crumbs (or more)

Mix well and form into a roll. Brush over with melted butter and bake in a moderate oven 25 minutes or until brown. Serve with a medium white sauce, to which may be added 2 tablespoons minced pimento.

Cottage Cheese Loaf II

2 cups cottage cheese
1 cup left-over cereal
1 cup bread crumbs (dried in oven)
4 tablespoons peanut butter
½ cup chopped peanuts
1 teaspoon onion juice
A pinch of sage
Salt, cayenne and paprika liquid, if necessary, to mix

Form into a loaf and bake in a hot oven 20 or 25 minutes, or until brown, or bake in a greased tin and turn out on a platter.

Pimento and Cottage Cheese Roast

2 cups cooked cereal (rice, etc.)
1 cup cottage cheese
1 cup dry bread crumbs
3 canned pimentos (chopped fine)
1½ teaspoons salt
¼ teaspoon soda
¼ teaspoon pepper
Liquid, if necessary

Blend all together very thoroly, making the mixture very stiff. Form into a roll and bake about 25 minutes, basting from time to time with savory fat or meat drippings if necessary.

* * *

"As long as men go to the front at the risk of being shot," writes Lloyd H. Nelson, a New Jersey farmer in a letter to the U. S. Food administration, "it is clearly my duty to risk all I possess. It is my duty to take a full risk in planting as many extra acres as my means will permit. This I am doing in 1918."

Josephine's Recipes

Dear Mrs. French: I reckon you-all will be surprised to hear from me. I'm Tom Putnam's wife. I been a-readin' your page and makin' a few expiriments with them substitutes such as corn flour and kafir flour, and I'm a-sendin' you some recipes. Your Old Man will like them noodles; Tom thinks they're fine:

Kafir-Graham Muffins

1 cup kafir flour
1 cup graham flour
2 teaspoons baking powder
Sour milk
½ teaspoon salt
Pinch of soda
1 tablespoon butter

Rice Flour Cake

1½ cups rice flour
½ cup wheat flour
1 cup sugar
1 egg
2 teaspoons baking powder
Pinch of soda; pinch of salt
1 tablespoon butter
Flavor with vanilla
Sour milk

Corn Noodles

¾ cup corn flour
¼ cup white flour
1 egg
Pinch of salt; pinch of soda

Corn Flour Cake

1½ cups corn flour
½ cup white flour
2 teaspoons baking powder
1 egg
½ cup syrup
1 tablespoon butter
Sour milk. A pinch of soda and a pinch of salt.—Josephine Putnam.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2423—Smart Spring Suit. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Requires 5½ yards 44-inch material for size 38. This excellent model has a blouse finished with surplice fronts. The skirt is a two-piece model. As here illustrated, white serge was used with trimming of black and white checked satin. Gingham, chambray, linen and shantung would also be nice for this style. Skirt and blouse may be used separately.

Waist 2425, Skirt 2436—Smart Costume for Outing Wear. The waist is cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. The Skirt is cut in sizes 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 will require 3 yards of 36-inch material. Sports goods in satin or Jersey cloth, linen, gingham, serge or gabardine could be used. The waist is nice also for crepe, taffeta, lawn, batiste or madras.

1945—Practical Set for the Little One. This model comprises a simple dress with round yoke, and long or short sleeves, a style of drawers, comfortable and practical, and a slip with added skirt portion at the back and with or without ruffle. Cambric, lawn and muslin are good for the slip. For the dress, batiste, lawn, cambric, percale, flannelette, challie or cashmere could be used. The Pattern is cut in 5 sizes: 6 months, 1 year, 2 years, 3 years and 4 years. It will require for the dress, 2⅝ yards of 36-inch material. For the drawers, ¾ yard. For the slip, 1½ yard, for a 2-year size.

2033—Simple Play Dress. Cut in sizes 1, 2, 3 and 4 years. Requires 2⅜ yards 36-inch material for size 4. This practical and comfortable garment is ideal for warm days. The fulness is held at the waist by a belt, which may be omitted if not desired. The skirt portion is finished at the lower edge with an extension that buttons over the front to form rompers; this extension, if dress style is desired, may be cut away. Gingham, percale, lawn, chambray, galatea, drill, repp, poplin, crepe and voile are nice for this style.

Farm Labor and the Draft

As now operated the military draft will make the least possible drain upon farm labor. District boards are encouraged by the War Department to reconsider cases of wrong classification. That is to say, where skilled farm laborers or farm managers have been placed in Class 1 on account of misunderstanding or lack of appreciation of the needs of the farmers, the boards are encouraged to reconsider meritorious applications supported by facts and affidavits made by responsible citizens. The Provost Marshal General's order of March 12 directs local boards, in furnishing their quotas for the new draft, to leave to the last all men in Class 1 who are assiduously and continuously engaged in agriculture. Under this order it is not likely that any man actually engaged in agriculture will be called, even though he be in Class 1, before this year's crops are harvested. The furlough rules just announced give further relief by permitting men to return to farms for emergency work, and provide for groups of soldiers who can be spared from military camps to go into surrounding regions to perform farm labor for a short period.

The difference between the patriotic American housewife and the one who is indifferent or disloyal is measured by the amount of wheat flour in her kitchen.

Silent pro-German appetites are as hostile to the Allied cause as disloyal utterances.

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As a matter of business foresight and economy, as well as of patriotism, farmers who increase their production of poultry and eggs this year should plan to use a considerable part of the increase on their own tables. Much of the benefit of increasing the supply of products capable of very rapid increase, but perishable and bulky, will be lost if producers adopt the policy of marketing all the increase. In that case there would be no substitution on the farm of poultry products for the cured and compact meats which it is desired to reserve as far as possible for military use and shipment to the Allies.

Many farm families could easily use several times as much poultry as is now consumed on the average farm. Analysis of the figures of the last census shows a very light consumption of poultry and eggs on the average farm. For the whole country the average yearly consumption of eggs per farm is only 137.5 dozen—2.6 dozen per week; of poultry 60 head—or one bird every six days. The highest average consumption of eggs in any state is 211.2 dozen—4 dozen a week. The highest average consumption of poultry in a state is 124.6 head—one bird in 2.9 days. Such averages indicate that farmers who use poultry and eggs freely on their own tables use from 6 to 10 dozen eggs and 4 to 6 head of poultry weekly. In view of the extent to which large stocks can be made self-sustaining during the greater part of the year on most farms, this liberal scale of consumption of poultry products would seem practical generally.

The consumption of eggs on farms may be greatly increased and farmers still receive the benefit of good prices for fresh eggs in the season of scant production and give consumers the benefit of a larger supply and more moderate prices, if all farmers who can do so will preserve as many eggs when eggs are cheap as they can use at home when eggs are dear. The average farm price of eggs in the United States in April, May and June, 1917, was 29 cents a dozen; in October, November, and December, 38.7 cents. In 1916 the average difference in farm prices in the periods compared was 12.3 cents a dozen. There is a period of from five to six months in every year when the average price for fresh eggs on the farm is about 10 cents a dozen more than the average price during the season of heavy production. Inasmuch as eggs can be preserved in water glass, or in lime water, and kept in good condition for from six to nine months, and usable for a year or more, a farmer who preserves eggs when they are cheap for his own use can use eggs freely the year round and still have eggs to sell all thru the season of high prices.—Circular No. 107, U. S. Dept. of Agriculture.

May Be Spoiled Feed

I am trying to raise poultry, have incubator chickens, also some the hens hatched. Keep them warm by putting jugs of hot water in a box; also set a lantern near them which keeps them quite comfortable. They seemed to be doing fine up until a few days ago. They get the diahorrea, some waste away while others are getting over it. This morning I found two with limber necks. I've separated them from the rest. Will you please advise me what to do. I fed sand and water after the first 48 hours, then hard boiled eggs for two days, then cracked wheat which came from under the threshing machine. There's weed seed and all kinds of scraps. I gave them mostly dry feed; made some cheese of sour milk; also corn bread baked.—Mrs. A. C., Mesa county.

It is impossible to tell from your letter just what is troubling your chicks. The first thought occuring to me was that they suffered chill at some time or other, which weakened them, after which they were susceptible to some disease. On the other hand, it might be that they had had access to mouldy or spoiled feed of some sort. Your method of feeding is alright, and should bring only the best results. I am still inclined to believe that the trouble is in the brooding. Please try furnishing a little more warmth if possible, especially protection against cold winds and chilly weather, inducing them to exercise as much as possible, being particular about the surroundings, making everything as sanitary as possible, and I believe you will find that you will have no more trouble. I would suggest that you feed the ailing ones starchy food, something like boiled rice, and feed just a little lightly for two or three days. You should be particularly careful until the trouble disappears, that the surroundings are clean, because of the danger of infection. I feel quite sure that with warmer weather coming on, if their conditions are made right, that you will have very little more trouble.

"Prairie Sod" Disease

Would like to have you explain just what is wrong with our baby chicks. After they are about a week old they get a scum over their eyes and above their nostrils, smell and get mattery. Their feet swell and get full of matter. Then they stand around with their eyes shut. It works the same with the old hens. But I washed their heads with warm water and boracic acid. The old hens get well, but the little chicks die. We lose from 5 to 10 a day.—E. E. L., Weld county.

I wish we could tell you something more about the trouble you are having with your chicks. For many years this has been very common in the plains section of the state, and our Veterinary Department has been working on the matter for a number of years, but as yet has been unable to determine the cause. We have never known a case of this kind except where chickens run on the prairie sod. It is the opinion of the pathologist who is investigating this disease that cactus or some other wild plant is responsible for the trouble. Just at the present time they have a number of chicks under investigation and are working harder than ever to determine the cause. For a number of years we have visited places where this trouble is prevalent, have endeavored to spread the disease by inoculation and contact, but have no positive information as yet as to just what causes the disease. It is unfortunate that we have not been able to settle this matter, as the loss in the plains section is enormous. Knowing that this disease is only found where the chickens have the run of the prairie sod, we feel sure that if your chicks were kept on plowed ground you would no longer have the trouble. We wonder if it would be possible for you to so keep them until they are large anough so as not to become affected. We know of no remedy, and can only suggest prevention as above. We hope this summer, as we did in past years, to determine the cause. In the meanwhile we can only offer this suggestion of keeping them away from the sod.

Feeding Cheaper Grains

Answer to Mrs. W. W., Cambridge, Idaho:

Generally when any particular grain is unusually high or higher than other grains, it is possible to substitute to a large extent at least, the cheaper grains. As a general thing it will be found economical to feed wheat, oats and corn in about equal proportion. At the time your letter was written, March 11th, you should have been getting a 50 per cent egg yield. The reasoon you have not been getting a good yield of eggs may not be the fault of the feed, as often the hens become lousy or the roosting quarters infested with mites making it impossible for hens to respond to feeding. We would suggest that a thoro campaign of cleaning up be inaugurated; that you furnish a variety of feed, one feed a day being a mash made up of a number of ground grains; see that they have something succulent in the way of root crops or scalded alfalfa leaves, and unless your hens are too old or are inferior layers, you should immediately get splendid results. If your hens have free range, four male birds in the flock would be sufficient for the number you have.

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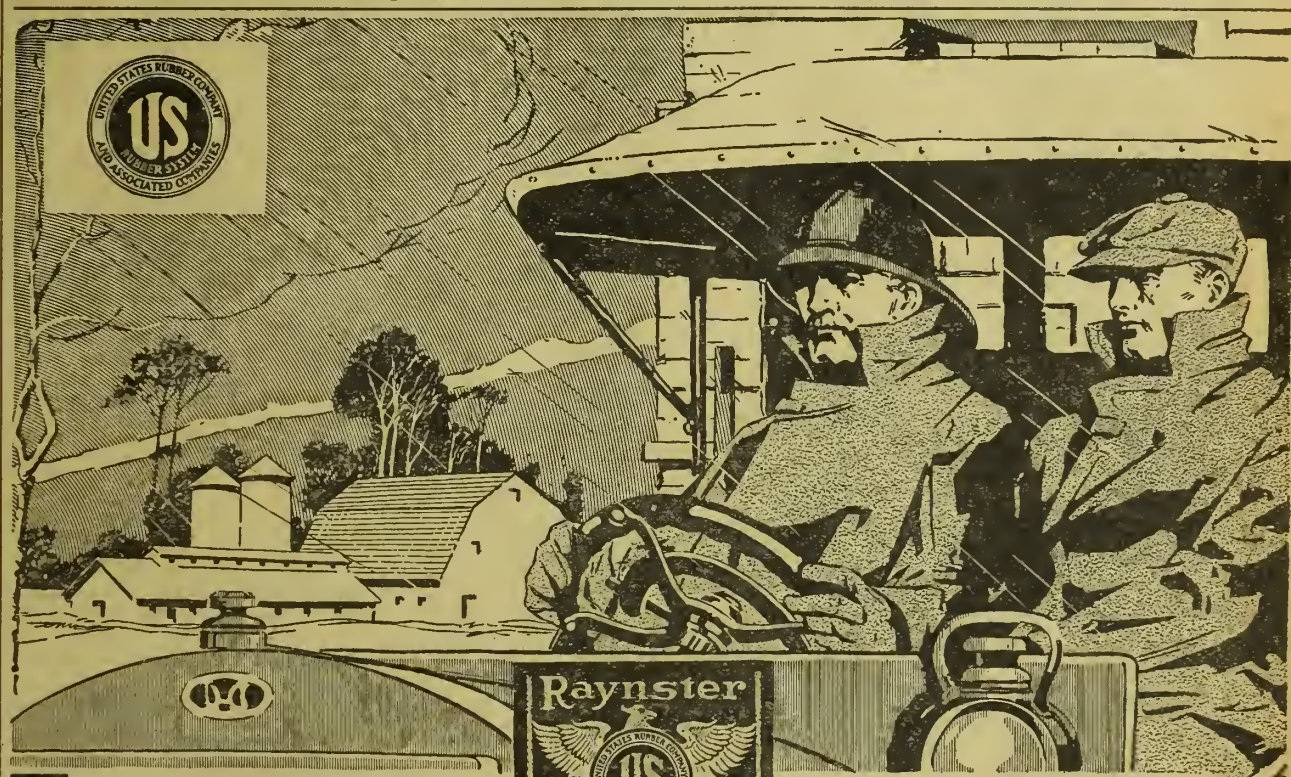
The breeder of good Percherons never faced a more favorable future. Draft horses are urgently needed for war, city and farm use. Not more than 1,000,000 of the 21,000,000 horses on the farms and ranches of the United States will, at maturity, weigh over 1,600 pounds and classify as drafters. No other nation has draft sced stock in sufficient supply to produce a draft surplus of consequence. The United States alone can be counted upon to produce the draft horses, which the world needs.

Exports of horses to Europe for war purposes from September 1st, 1914, to January 31st, 1918, a period of 41 months, totaled 983,899 horses valued at $207,283,114, and 343,435 mules valued at $67,390,991. In addition to this the United States Army purchased more than 300,000 head of horses and mules between June 1st, 1917, and March 1st, 1918.

Additional purchases for war use depend on the length of the war, transport space available and number of troops used. One horse or mule is reckoned for every four men put in the field, exclusive of cavalry; and the importance of cavalry, somewhat obscured during the last three years, is likely to receive greater emphasis as battles approach open field warfare.—Wayne Dinsmore.



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KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

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REE 1,600 ACRE RANCHES, CLOSE IN, good ones.

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NEY TO LOAN ON DRY LAND FARMS and stock ranches. Write Shanholtzer, sh, Colo.

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NT RANCH IN TRADE FOR HOTEL. COMletely furnished, good mining town, high ool, county seat. Georgetown, Colo., Box 26.

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can show the buyer 288 imported and Amerin Bred Percheron and Belgian draft stalons and mares. Will weigh at maturity d in fat condition 1600 to 2350 pounds. ices, $450.00 and up. Also 396 young ef cattle consisting of Durham, Polledgus, Galloway and Hereford calves and arlings. Prices, $75.00 and up. Pedirees with each one, also guarantees. Write R. I. LITTLE, Good Block, Des Moines, wa

The Grange

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C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 415 Charles Block, Denver, Business Agent and Secretary.

Wild Rose Grange No. 160 held a good meeting April 13th, with about thirty members and others in attendance. Two candidates took the first and second degrees and we had one candidate for the third and fourth. Music and recitations were features of the program. We have not had an outside speaker since State Master Morris visited us about five months ago and we need some help of this kind from the outside.

Henderson Grange No. 96: We meet every Wednesday evening and the attendance has been very good all winter. We have initiated 31 in the first and second degrees and 28 candidates in the third and fourth. Our program has consisted largely of the initiation, but we have had some lively debates. We are making good progress and doing a lot of buying thru the purchasing agent.

Elk Mountain Grange No. 1915: We had a meeting March 9th with an attendance of 37 and on the 23rd of the same month there were 31 at the meeting. Our program consisted of speaking, reading and music. We have taken in six new members since the first of the year. We are planning for a play and a literary program.

Westminster Grange No. 184: We are having two regular meetings a month and we had a special meeting on April 13tr at which there was an attendance of 65. At the regular meetings the attendance usually averages ten to fifteen. In the last three and a half months we have initiated 12 in the first and second and twelve in the third and fourth degrees. On April 6th we had a big patriotic meeting with the War Service Board and the Liberty Loan committee. William Vail of Arvada was the speaker. Maple Grove drill team was in charge of the third and fourth degree work at which twelve candidates were initiated on April 13th. Two card parties have been held in the last three months, each with a good attendance. Our progress is slow but steady. We are doing some buying thru the state purchasing agent. —J. H. Williams, Lecturer.

Horse Creek Grange No. 190: We have been holding meetings on the average of once a month. One candidate has been voted on and I have five applications and there are probably ten in all who will show up for initiation soon. We expect to have some of the state officers out when we put on the fourth degree work at our May meeting. We have bought the school house, which was recently vacated by the school board, and now have a place to meet. At our social late in April part of the proceeds went to the Red Cross. I. H. Winchell, Lecturer.

The big milker must of necessity be a big eater, and must therefore have a well-developed constitution.

The only legitimate 'con game' is the con-servation game.

$25 Holsteins $25

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WE OFFER FOR SALE, choice, beautifully marked heifers or bulls, 3 to 5 months old, $45.00 crated F. O. B. cars. Write
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Hereford Ranch of Walden, North Park, Colo.
300 HEAD
200 COWS 100 BULLS
Will be Sold June 11th and 12th

Also the following herd bulls, now being used with this herd of cows, will be sold:

MAPLES LAD 34th, by Bonnie Brae 8th.
REPEATER 29th, by Repeater.
ARRON MISCHIEF, by Beau Mischief.
PARCIFAL MILDRED, by Parcifal.

Over half of the cows—Disturber and Fulfiller breeding—will have calves by side on date of sale, sired by these abovementioned bulls.

Watch this space for further announcement and send for Catalog

J. H. DICKENS, Proprietor -:- WALDEN, COLO.

NATIONAL WESTERN
Ram Sale
Denver, Colo., September 3, 4, 5 & 6, 1918
Under Direction of The Western Stock Show Association

Announcement

The Western Stock Show Association, of Colorado, desires to announce the Public Ram Sale to be held in the National Amphitheatre at the Denver Union Stock Yards on September 3, 4, 5 and 6, 1918.

This sale will be open only to reputable and established breeders and no sheep will be offered that are not of established quality and breeding. The sale will be open to stud rams and stud ewes, pure bred and registered, and pure bred range rams.

The object of this sale is to enable western flockmasters to secure new blood of the highest standard for their flocks.

Entry blanks, rules and regulations are now ready and can be had upon application to the Secretary. Address all communications to

FRED P. JOHNSON, Secretary
Stock Yards Station DENVER, COLORADO

THE PLATTE RIVER CATTLE COMPANY
Denver, Colorado

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BULLS

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Good Bone, Colors and Markings
Fine Condition for Service

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406 New Live Stock Exchange Bldg. Phone Champa 4793

Normal Acreage of Potatoes Urged This Season

(Continued from page 3)

here. Potatoes are not like wheat or beans; they must be disposed of in a limited period or be thrown away. There is nothing either patriotic or sensible in over production of a perishable crop. It takes special care and special cars to move potatoes in winter, and they must be moved marketward in cold weather, or they will not get to the consumer in time to be eaten before new potatoes come on the market.

Growers who have the right kind of soil and who know the game expect to plant their usual acreage. They have a right to expect a continued big demand because of the peculiar food conditions now existing, but they will keep in mind the conditions under which potatoes must be grown and marketed in these times of stress, and not so many will over-reach themselves this season.

Treatment of the Seed

The following on potato diseases and treatment of seed for prevention is issued by Prof. L. E. Melchers of Kansas State Agricultural College:

Blackleg: This is a bacterial disease living on the surface or inside of the seed. Infected seed produces blackened sprouts which soon die. This is one of the causes of "missing hills."

Control—1. Treat all seed in corrosive sublimate or formaldehyde. Corrosive sublimate is to be preferred, since it kills other potato seed diseases which are not affected by formaldehyde.

2. Do not plant seed showing internal blackening.

3. Remove all affected plants from the field.

Black Scurf (Rhizoctonia): This is a fungus disease causing young plants to die in the field. By rotting the young sprouts it is often responsible for "missing hills." Some of the diseased plants produce small potatoes which have small black specks on their surface. These are fungus masses which transmit the disease to the next season's crop.

Control—1. Practice rotation using a legume or cereal crop.

2. Disinfect the seed before planting, using corrosive sublimate solution.

Dry Rot or "Wilt": Infected seed show blackened streaks in the flesh at the stem end. The leaves turn yellow and curl slightly. The entire plant wilts and gradually dies.

Control—1. Rotate crops for 3 or 4 years in fields showing the disease.

2. Treat uncut seed in corrosive sublimate or formaldehyde.

3. Plant clean and in disease free soil.

4. Remove and destroy diseased plants when they appear.

Scab: This is caused by a parasitic fungus attacking the skin of the tubers. The disease is carried over on the seed, in the soil, and in manure.

Control—1. Practice crop rotation.

2. Avoid using excessive amounts of manure, lime, or alkaline fertilizers.

3. Treat seed with formaldehyde or corrosive sublimate.

Corrosive Sublimate or Mercuric Bichloride Treatment: This treatment is recommended in preference to the formaldehyde treatment for potato tuber diseases.

1. Prepare a solution by mixing 4 ounces of corrosive sublimate, which can be secured from the local drug store, in 30 gallons of water. Powdered corrosive sublimate is preferred and should first be mixed with 1 quart of hot water, since this causes it to dissolve more rapidly. When completely dissolved add enough water to make 30 gallons.

2. Do not use metal vessels or containers for this solution, since it corrodes metals. Barrels, wooden tubs or concrete vats may be used. It is a deadly poison and must be kept away from children and animals. It will not injure the hands. Treated seed is also poisonous and must not be eaten or fed to stock.

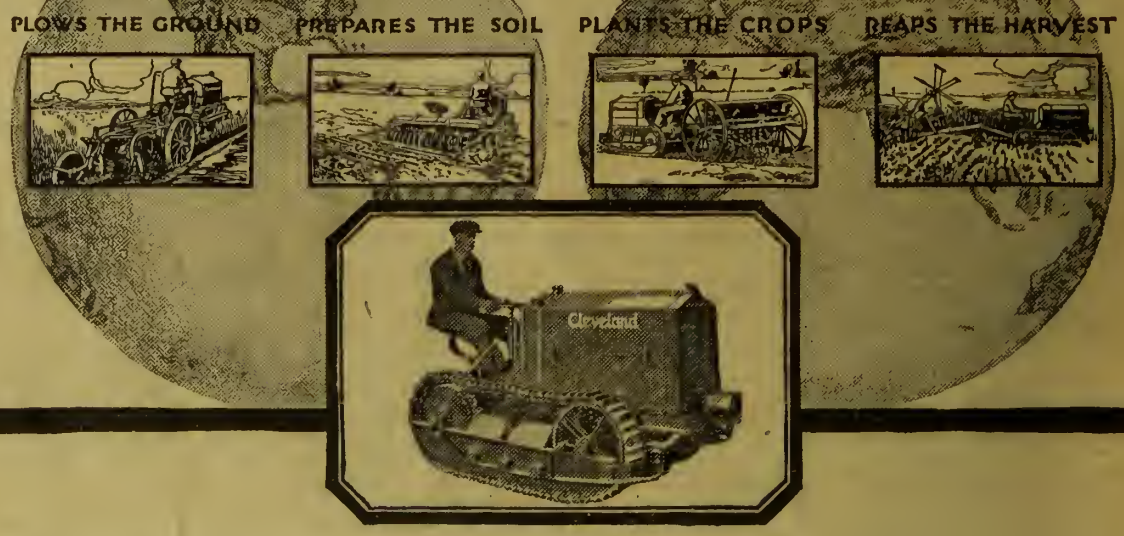
3. Place the uncut tubers in sacks and submerge in the solution for 1½ hours. Remove and drain the sacks, or spread the seed to dry, after which it may be cut. Use a fresh solution after every third or fourth batch of seed, treated since it loses its strength rapidly.

The Formaldehyde Treatment: Place the uncut tubers in sacks and submerge in a solution made by mixing 1 pint of 40 per cent formaldehyde with 30 gallons of water. The tubers are allowed to soak for 2 hours, and the same equipment used for the corrosive sublimate treatment may be employed here. This solution does not lose its strength and may be used indefinitely. It does not corrode metal, therefore any container will serve. This treatment is satisfactory for potato scab, but is not recommended for the more prevalent and serious Rhizoctonia and Blackleg. Formaldehyde may be secured from local drug stores or bought in larger quantities from chemical supply houses.

Use Different Methods

NOTE: The method of treating with the corrosive sublimate solution usually used by the mountain states growers differs from that advocated by Prof. Melcher, altho the same formula is used. The first sack of potatoes is soaked for one hour and a half, the second sack, one hour and forty-five minutes and the third two hours, and then a new solution is made. The solution is weakened with each successive dipping and by lengthening the period of the second and third dipping these sacks get practically the same strength as the first.

The Tractor for all the World



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It plows. It harrows. It plants. It reaps.

And it does all of these things *faster* and *better* than was possible before.

But that isn't all. It does the thousand and one other things that require mechanical power. It pulls your manure spreader. It runs your saw. It operates your pump. It cuts your ensilage. It drags logs and lumber. It pulls road machinery. It does practically everything that horsepower and stationary engines can do. It develops 12 horsepower at the drawbar for hauling and gives 20 horsepower at the pulley for stationary work.

Cleveland Tractor

The Cleveland Tractor plows 3½ miles an hour—eight to ten acres a day—which is equal to the work of *three* good men with *three* 3-horse teams.

It travels on its own endless tracks which it lays down and picks up as it goes along.

It operates easily over gullies, ruts, and uneven ground of all kinds. Because of its 600 square inches of traction surface it goes over sand, gumbo, mud and slippery clay without packing the soil, without sinking, miring or floundering.

The Cleveland weighs less than 3200 pounds and is so small that it can be readily driven under and among small fruit trees.

It steers by the power of its own engine and will turn in a twelve foot circle.

It requires less space to house than a single horse.

The Cleveland Tractor was designed by Rollin H. White, the well known motor truck engineer—and is manufactured under his supervision.

He has designed the track for long service. The sections are constructed to prevent filling or packing with mud and protection is provided to prevent dirt and mud from falling into the track. The sections are joined with hardened steel pins which have their bearings in hardened steel bushings.

Gears are protected by dust-proof, dirt-proof cases and are of the same high quality as those used in the finest trucks. Materials used throughout are of the best.

Every step must be taken this year that will speed up farm work—that will enable machinery to replace muscle—that will help produce—and increase harvests.

The Cleveland Tractor is already bearing a big share of the war burden. Farmers are producing larger crops because of the Cleveland—*and are making greater profits.*

You too can help the nation meet the food emergency—and incidentally make more money for yourself. Write to us *now* for complete information and the name of the nearest Cleveland dealer.

THE CLEVELAND TRACTOR CO., Dept. AH, Cleveland, Ohio, U. S. A.

Seeing the Elephant

There is a familiar fable of the blind men who were taken to "see" the elephant and of their description of the beast according to the point of contact of each, as one touched the ear, another the trunk and a third the leg. In reading comment on price fixing and other matters relating to food production one is reminded of this fable. Each commentator would have his readers believe that it was he who really saw the elephant as he is and got his ear, attached his trunk, or pulled his leg. In other words, that it was the influence of his journal, or of his particular group of producers, or his argument and insistence on "fair play" that brought home the bacon in the abolition—for a time—of meatless days, in the investigation of packers' relations to the producer, or in this, that or the other suggested reform in means and methods.

Without wishing to belittle the influence of these efforts let us hear what a farmer recently returned from Washington has to say on this subject:

"The one thing that impressed me was the earnestness of the officials in charge of food production and distribution; the wisdom with which this great problem is being handled. It is done with just one thought in mind—how to win the war in the quickest way. This involves feeding not only the armies, but civilians in the war zone, and the maintenance of contentment among our own industrial population, by keeping food at a reasonable price level. I can understand now why it would have been unwise to increase the wheat price. It is an even distribution of the burden that is being sought and accomplished, as nearly as it is humanly possible to do so. Protests are heard and considered but always from the broad view of results in winning the war and not from that of the narrow interest of any group of citizens. Time and again committees have come to Washington representing some special group, determined to make things unpleasant for somebody, but invariably a majority has gone back convinced that whatever may be the shortcomings of those charged with the food problem they are right at heart and their work is well planned and their tasks are carried out efficiently and solely with regard to the main question at issue."

So it seems that the blind men are correct in their estimate that the elephant is a wonderful beast, though no single interest can rightly compass his size and scope, but all may help to keep him from slipping when he tugs at the tremendous load to which he has been hitched.

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WESTERN Farm Life

Vol. XX Denver, Colorado, June 1, 1918 Semi-Monthly

HEREFORDS ON THE MARTIN RANCH, LA VETA, COLO.

In upper corner from left to right—J. F. Ritter; C. L. Martin, owner of the ranch and standing is Waldo Kidder, County Agriculturist, Huerfano County

(See article on page 7)

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that make a horse Wheeze, Roar, have Thick Wind or Choke-down, can be reduced with

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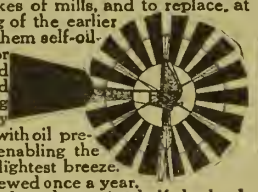

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Topping Beets by Machine

In Utah county on November 21 there were made demonstrations of the Devey beet topper and the Huish-McClellan toppers. Both were successful. Beet growers from five counties thruout Utah and factory agricultural men and manufacturing experts and others were there to study the results. A vote was taken in each of the fields and every man in the crowd of four-score shot up his right hand in the vote attesting the success of the machine.

It topped the beets as well as the average human hand, and it cut the harvesting cost in half a couple of times. The Francomes found that it had cost them an average of about 30 cents a ton to harvest their thirty-five acres this year as compared with more than $1 a ton cost for neighbors who hired their harvesting done in the usual way.

The fields where the trials occurred were not ideal for the final demonstration; rather, there were unusual problems.

In one field the beets grew very irregularly, one beet grew five inches above the surface and its neighboring beet, only twelve inches away, would be flush with the surface of the ground, the next beet, only twelve inches away, would be three inches above the surface; but the uncanny invention would cause the topping device to raise for the high beet and clip off the crown and top with but little loss, and then in less than two seconds the next beet would be topped flush with the ground and the third beet would have just as accurate a gauge as either of the two first beets.

It was automatic in its action. The machine had to do its own thinking and it also had to think quickly, for the two-horse team proceeded at a normal speed and the topper had to do its topping at the rate of about 100 beets in each 100-foot length of row in less than two minutes. No human hand could keep pace with it and there were no creaking backs to complain.

These inventors had a great amount of confidence in their machine. They remembered that about conference period, which is about the beginning of the beet harvest time each autumn, the equinoctial storms come on, and the fields are often muddy for considerable periods of beet harvest season. To demonstrate that sort of problem the Francomes turned irrigation water into several rows of their beet fields and soaked the ground for their field demonstration.

Theirs was not merely a "fair weather" machine, but also a stormy weather invention. The field was so soft that the horses had difficulty getting thru. However, the machine is not heavy and two medium-weight horses were able to pull it. Now and then the wheels of the harvester would slide in the mud, but so long as the drive wheels would furnish the small amount of traction needed to propel the working parts, the topper worked satisfactorily.

In the discussion while in the fields, some of the beet growers who were present wanted the one row, more wanted a two-row capacity and a few wanted a four-row capacity. Mark Austin, agriculturist with the Utah-Idaho Sugar company, told the growers something of his impressions. He said:

"Probably the first machines will be constructed to top and lift one or two rows at a time and deliver the beets into piles thru the field. After a time, the most successful machines will be the larger type that will top, lift and deliver in the wagon, four rows at a time and this will mean that the beets will be delivered directly from the ground into the wagons without any handwork. Beets that are delivered fresh and transported to the sheds of the factory in firm, crisp condition go thru the knives more speedily and the cossetts in the diffusion batteries yield their saccharine matter far more rapidly and thus permit a more economical recovery of sugar. Then, too, some days when the sun is warm and the wind blowing, beets left in small piles on dry ground in the fields will shrink from 5 per cent to 10 per cent in moisture and that means an outright loss to the farmer of from 50 cents to 85 cents a ton.

"The new order of harvesting means

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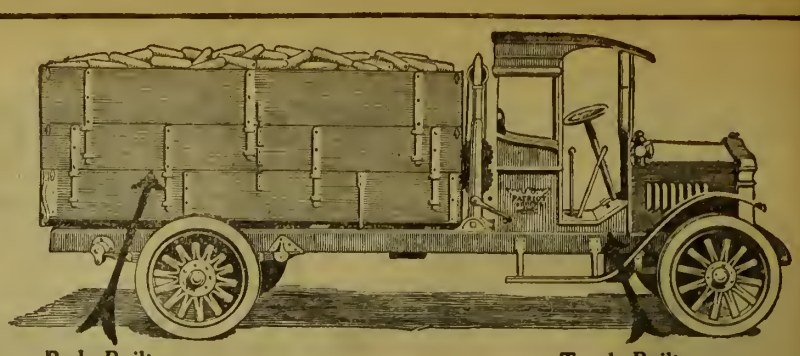

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To save high-priced horses—

But—the farmers have not bought them to any great extent. Why? The reason is, there has never before been a real Farm Motor Truck on the market.

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The Patriot Is the First Motor Truck Built for Farm Work

Or—they have been mere cheap units to combine with worn-out, low-priced, low-powered cars—forming makeshift trucks that never were expected to deliver real farm service.

But now—the farmer has a real truck—built in the center of Agricultural America—by experienced truck and body makers, in a new, complete and modern factory—and built for farm service.

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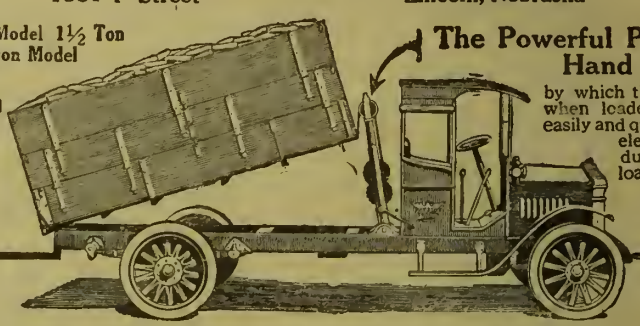

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A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, JUNE 1, 1918 | Number 11

Why Colorado Wool Shows Poor Rating on Market

CHARLES I. BRAY

Following is the third of a series of articles on wool production, written for Western Farm Life by Prof. C. I. Bray of Fort Collins, who has been making an investigation of the industry in the mountain states for several years and aiding in its improvement with expert advice. Previous articles were entitled "Conservation of Lamb Crop on Western Ranches," appearing April 1st, and "Modern Shearing Sheds Improve the Wool Industry," in the issue of May 1st. There are on hand a limited number of copies of these issues and those who failed to save the article may have copy free on application. The great shortage of wool, the world's need for meat, the demand for farm animals that dispose of the waste feed and return manure to the soil all urge more sheep growing on our farms. We may have prided ourselves in Colorado on the fact that we are one of the "great sheep states," but read Prof. Bray's present article and see how far behind we are in the production of first-class wool. Questions about sheep raising will be gladly answered. Address all inquiries to Western Farm Life Service Bureau, Denver, Colo.

BREEDING for better wool usually goes along with the improved methods of preparation described in the previous article. Breeding should come first, but generally comes later, when the sheep owners have learned the need of it from seeing their clip graded. Under the old sales system where poor wool might sell at the same price as the best, there was no incentive to improvement. We were reminded of this twice recently. While talking to Prof. W. T. Ritch of the American Wool Improvement association, we asked him what he considered the greatest benefit derived from the modern shearing and grading systems. He said:

"Undoubtedly the improvement brought about in the quantity and quality of the wool produced. Wyoming flocks sheared three years under the new system have shown an increase of two pounds of wool per head, the grade of wool being also improved materially."

Two days later I was talking to a Monte Vista man who has been in the sheep business for a long while, and who has had some experience with the shearing shed at Wasson. His statement was:

"We are starting at the wrong end, when we start grading wool before we have anything to grade. We ought to work two or three years on improving our wool by breeding before expecting to do very much by grading."

He was right to a great extent, but the question is, will the breeder produce better stuff before he sees the financial advantage of so doing?

For a sheep state of our standing we have a rather poor record in regard to character of wool produced. I wrote a Denver commission company a year or two ago, asking for the value of Colorado wool, compared with that of neighboring states. They said:

"Colorado wool sells for one to five cents per pound less than Wyoming wool, because Colorado breeders pay far less attention to the breeding of their sheep."

Here is what the Department of Agriculture reports on the wool trade. Bulletin No. 206: "Colorado wool has little character, being a nondescript wool often shrinking from 70 to 72 per cent. The wool from this state in general is often described as being breedless. It rarely grades higher than half-blood. There are, however, some lighter shrinking wools of good quality from certain sections of the northern part of the state."

Probably only three states, Utah, New Mexico and Arizona have any worse description given them in this report.

Too Many Breeds

One reason why there is so little definite type is that Colorado uses a larger number of breeds on the range than any other western state. The report of the tariff board on wool in 1911 credited Colorado with 8 breeds of bucks: Rambouillet, 59%; Shropshire, 15%; Oxford, Lincoln, Merino, Cotswold, Hampshire, and Delaine from 2 to 5% each. Wyoming in turn had only 4 breeds: Merino, 34%; Rambouillet, 30%; Cotswold, 30%; Leicester, 6%. The Colorado lambs would, of course, be a little better for mutton.

Haphazard breeding will get us nowhere. A system of systematic breeding has proved very successful in Australia. It produces a sheep shearing 9 to 10 lbs. wool of high quality, with little loss in mutton value. Purebred Merino ewes are crossed with long-wool rams, preferably Lincolns. The resulting cross is called a halfbreed. A Lincoln ram is again used, producing a three-quarter bred, having a wool of coarser quality. A Merino or Rambouillet ram is next used producing a Comeback, slightly finer than the halfbred. Another cross of the Merino produces the second or fine Comeback. Up to this point the fleeces produced have been very uniform all over the body as regards type and quality. It looks as if we could cross back again twice to the long-wool ram, and so on indefinitely, but it does not work out that way. The only thing to do is to breed the fine Comebacks to Down or long-wool rams, and sell all the offspring for market purposes. By this time the offspring are very variable in type, and the fleeces very greatly on dicerent parts of the same sheep. For this reason it is not best to use them for further breeding.

This looks like a complicated system, but is not as much trouble as it looks. Only two breeding bands are necessary, three at the most. The Merino ewes, or three-quarter blood Merinos, the halfbreds and fine Comebacks will go together with the long-wool bucks. The three-quarter breds, the Comebacks, and such Merino ewes as may be selected to continue the Merino fiflock will be turned to the Merino flock will be turned to the season the flock can run together as usual. We have had no experience with this method, but it is said to give little trouble in actual practice. The Merinos, halfbreds and three-quarter breds are not hard to recognize. The Comebacks are marked at birth with a notch in the right ear, the fine Comebacks in the left ear, and the market lambs in both ears.

The Corriedale Breed

The next question is: Have we not a breed of sheep that will give this much desired fleece without so much trouble There is such a breed, the Corriedale. Unfortunately the Corriedale is not yet a strongly fixed type, and such as they are we have not many of them. The Corriedale had its inception in Australia some thirty-five years ago. Numerous experiments had been tried by breeders to obtain sheep that would give the most desirable type of fleece with a fairly uniform mutton carcass. The mixture which finally proved most desirable was 50% Merino, 35% Lincoln, and 15% Leicester. For market purposes there is little difference between the Corriedale and the best halfbreds. The practical difference is, the Corriedale has a fairly well-fixed type and can be depended upon to breed approximately uniform offspring. Where one can get good Corriedale bucks, he can use them continuously on the halfbred ewes without needing any further change of type. In Australia after six crosses of Corriedale blood the progeny can be registered as Corriedales. After seven crosses the bucks will be fairly safe for breeding purposes.

The main thing Colorado breeders should be warned against is the use of halfbred Corriedales, or halfbred Long-wool Merinos. Such rams cannot be depended upon to give satisfactory results. The progeny may look very good to the amateur, but the fleeces may greatly lack in uniformity of type. If it is impossible to get pure Corriedales it is better to try the systematic cross-breeding.

The most important question is: How well does this pay? Frankly speaking, we do not know. There has not been sufficient chance to compare the two methods thoroly under American conditions. It is certain that Colorado wool will stand improvement. We are not entirely sure that

Turn to Page 13

A Wanganella (Australian Merino) of the Kind Imported by King Bros., Laramie, Wyo.

Pinto Growers to Hand Pick Beans If Necessary

INTERSTATE ORGANIZATION PLANNED TO AID IN MARKETING

ALVIN T. STEINEL

HAND picked pinto beans will be on the market next season. Several of the larger cleaning establishments in Colorado will install additional machinery during the summer to handle the pintos so that they will be on an absolute equality with hand picked white beans. The big problem encountered in marketing the 1917 crop, a large portion of which was purchased by the United States Food administration and re-distributed to the eastern markets, was the matter of grading and cleaning. Many cars were rejected by the government because the beans were not up to the grades established by the Rocky Mountain Bean Jobbers association. While these rejections often were based on technical points, it became plain, nevertheless, that there would have to be improvement in cleaning and grading if the pinto bean growers expected to hold the market.

It was the jobber who suffered loss due to these technical rulings, the beans having passed out of the grower's hands when rejected, but in order to remove the condition that caused rejections both grower and jobber must co operate in arriving at a solution of the problem. Grading rules may be changed somewhat, but it has become evident that the competition of the hand picked white beans must be met by hand picking. The labor cost of hand picking is figured at 50 cents a hundred, but the shrinkage thru hand picking amounts to about $2 per hundred.

An endeavor will be made also to establish a grade for split beans. Because of late threshing which puts the beans thru the separator in extremely dry conditiion, the percentage of splits is very large. These split beans are absolutely equal in food value to whole beans, but are discriminated against because of their appearance. They may be included in a grade that would cover splits, small and off type beans and sold at a discount.

These are some of the problems that must be solved during the present summer, before the 1918 crop is ready for market. There is no assurance that the Food administration will help us with direct marketing as was done in the emergency three months ago. In fact, there is everything to indicate that Colorado and New Mexico will have to shift for themselves. The efforts made by the Food administration to give us a market and a fairer differential with white beans, were resented by the Michigan growers. Michigan Business Farming, went so far as to make vague inferences of underhanded dealing against the Food administration, referring to the purchase in such language as "expose of the pinto bean deal," etc. As a matter of fact the purchase of 42,000,000 pounds of the western crop was made for the purpose of preserving the remaining white beans for army use and supplying the domestic trade of the east with beans of the same food value at a cheaper price to the consumer. The Michigan producer lost nothing by the deal; his entire crop was absorbed and the temporary slump in the Michigan market did not hurt the grower, but brought navies down to a figure nearer their real value, but still about five cents a pound, retail, above pintos.

The effect on the Michigan producer, however, was such as to show that there will be a fight for the eastern market next winter, and pinto growers will have to be ready for it. That means nothing more than putting pintos on the market in as good condition as white beans are marketed. We can do this and still sell them at a somewhat lower figure, altho the food value is the same and pintos have the edge in palatability and cooking qualities.

The Michigan growers sent a committee to Washington to protest against the activities of the Food administration in favor of pintos. This committee was headed by Governor Sleeper. Every possible political influence was brought to bear on Food administration officials to force a cessation of efforts to market the pintos. Nothing was accomplished to hinder the marketing of the pintos, but the Michigan people were given assurances that their growers would not suffer thru the advent of the western bean. It was pointed out to them that there was room for both varieties on the markets of America and Europe.

These developments indicate the urgent need for completing the organization of the growers in Colorado and New Mexico and affiliating with these two state organizations any other sections of the west that may now be growing pinto beans in limited areas, such as the Northwest Texas country and certain sections of Wyoming, Utah and Idaho.

A plan for such an interstate organization is being perfected by the Colorado Office of Markets. It was this governmental bureau that assisted in organizing the Colorado Bean Grower's association in 1917. There are in existence several county organizations affiliated with the state organization in a loose way. This entire matter of organization should be taken up immediately, so that grading and marketing questions may be settled before threshing time next fall.

Growers will be interested in bean production figures covering the whole United States, and showing that, however, imported the pinto crop is to us, it represents only 10 per cent of the bean production of the entire country. The value of the 1917 crop in the two leading pinto states is conservatively estimated at $8,000,000. We did not get that for the beans, due to the discrimination which was in effect the greater part of the winter. The only way in which we can avoid a repetition of that experience is by getting all the pinto growers together in an organization which will follow the Michigan plan of arriving at a fair producer's figure, based on cost of production, and let the market know what beans should bring.

The time has gone by when farmers had to rely on middlemen to establish prices for them. We do not intend to fix prices in the sense of agreeing on an arbitrary figure, but it is perfectly fair and legal to determine, on the basis of production cost, what we should get for a product, such figure to take into consideration the demand for and the food value of the article.

The total production of edible beans in the United States for 1917, according to Department of Agriculture statistics, was 17,563,000 bushels. Only 10 per cent of this total were of the pinto variety; 37 per cent were small white, (navies); 13 per cent lima, 4 per cent red kidney and 35 per cent are covered under the designation of "other varieties."

Pinto production was largely confined to Colorado and New Mexico, the official figures on acreage and yield being as follows: Colorado, 198,000 acres; production 1,188,000 bushels; average per acre, 360 pounds.

New Mexico, 200,000 acres; production, 667,000 bushels; average per acre, 200 pounds.

The reason for the big difference in per acre production is that Colorado grows more pintos under irrigation than does New Mexico.

California is the leading bean state of the Union, with a production in 1917 of 8,091,000 bushels, of which 26 per cent were lima beans; 16 per cent navies; 4 per cent red kidney; and 58 per cent "other varieties." In the latter designation are included the California pinks, which constitute 25 per cent of the crop in that state.

Michigan and New York are the leading producers of white beans, the 1917 record being as follows for Michigan: total acreage, 537,000, producing 3,294,000 bushels, an average of 368 pounds per acre, 96 per cent of this total being navies.

New York, total acreage, 210,000, producing 1,575,000 bushels, an average of 433 pounds per acre. Of this total 39 per cent are navies and 29 per cent red kidneys, the balance being "other varieties."

Money Lenders Attack Federal Farm Land Banks

ORGANIZED ATTEMPT IS BEING MADE TO DISCREDIT THE SYSTEM

Following are extracts from an address recently delivered by Ralph Voorhees, Treasurer of the Federal Land Bank of the Ninth district comprising the states of Kansas, Oklahoma, Colorado and New Mexico showing the progress of rural credits in these states:

We desire to present at this time for your consideration a statement covering the business of this bank up to the first day of May, 1918. Total amount of loans applied for in this district, $31,547,659.00 of which sum $11,191,700.00 has been paid out in completed ioans apportioned as foiiows:

Kansas	$5,354,800.00
Oklahoma	2,768,600.00
Colorado	1,792,400.00
New Mexico	1,275,900.00

and a business of one million dollars in loans per month is now the average for this bank.

In the formation of this bank its capitai stock was $750,000.00, a smail portion of which was subscribed by the public and the balance by the Government. The government's share in this stock was but a ioan, and it wiii not participate in any accruing dividends, and on May 1st, 1918, our books showed that all of this capital stock has been restoreo and we show a surpius in the treasury of $77,810.34. We believe this to be a very fair record, considering the abnormal expenses incidental to the formation of the hank and the putting into operation of its various branches of activity.

* * *

After a triai of fourteen months it is quite evident to all concerned that the Federal Land Banks, twelve of them covering the entire area of the continental United States, are an important agency of this governmcnt, and have come to stay, notwithstanding the efforts on behalf of its opponents to discredit thcm and their bonds, and thru faise and misleading statements to attempt their destruction. A propaganda of large proportions is now in process, and this district has been selected as one of the convenient and fruitful fields of its activities. The spy is abroad in our land, and through great expense is collecting data in all of our counties in Kansas which is calculated to injure thruout the East the sale of our bonds in every channel of trade, and recently in the lower house of Congress the matter was fully aired in a discreditabie and shameful manner by those who would destroy us. Page after page of the Congressional Record was filled with a detailed account of our ioans in fifteen or twenty of the Kansas counties, and records the county assessor's vaiuation of the land and the loans made by this bank. We, of the West, can appreciate more readily the distant relationship that exists between the two, but the idea attempted to be conveyed is that the law requires us to loan not more than one-half of the county assessor's valuation, rather than the vaiuation of the Federal Land Bank appraiser, which must receive the consideration and approval of our executive committee.

As an instance of this injustice, I will cite one case in Kearny county. It ciaimed that we had made a loan of $1,500 to a certain farmer, and the county assessor's appraised valuation of this iand was but $800, intimating that under the law we were entitled to make a ioan of about four hundred doiiars, but rather, had made a loan of $1,500. The facts are that the county assessor's valuation was $5,000, that the valuation placed on it by the loan committee of our National Farm Loan Association there was $8,190, and the iand value by our appraiser $7,500, upon which we were entitled to make a ioan under the law of $3,750. And if this will not suffice as an illustration let me say that a few days ago we received a communication from this farmer borrower stating that he desired to have his land released from our mortgage, as he had disposed of it for $110.00 per acre, or a total of more than $13,000. Many cases in like character might be cited to justify the loans that we have made.

In addition to this evidence we have a report from the county commissioners of that certain county that many farmer borrowers have secured ioans upon a second mortgage on the land on which we have a first lien.

And as if ridicule were not to be the sole weapon, they are now in the act of soliciting subscriptions from insurance companies and loaning companies all over this land for the purpose of bringing the Congressional Act into court and testing its constitutionality.

* * *

With respect to the bonds of this bank, much criticism has been advanced from the fact that the Treasurer of the United States has been empowered by Congress to purchase our bonds and those of the other eleven banks to the extent of $100,000,000 during the next two fiscal years, and this act is not readily understood by the people. The facts are that in these times when every financial stream has been drained to its very source in order to carry on this great war, the market for securities of all kinds has suffered very materially. Interest rates have been advanced, and there seems to be no reaay money for bonds of this kind, no matter what their merit, and the Treasury, during such a period has simply been empowered to receive our bonds in order to tide over this unusual condition. They are sold to the Treasury at their face and accrued interest, and must be repurchased by the banks from the Treasury on the same terms, and may be purchased at any time within one year after the ciose of the war. Heretofore our bonds have all brought 4½ per cent, and not a bona of the Federai Land Bank of Wichita has been soid for less than par and from one-haif of one per cent to one and one-eight per cent premium.

* * *

But the great test of our business can only be determined by the manner in which their obligations to this bank are met by the farmer. Since November last this bank has had due thousands of dollars in instaliments of principal and interest, and up to this time can show a most gratifying record, as but a very smail per cent of the sums due us for instailments remain unpaid, and not one foreciosure has been instituted.

Milk Famine Abroad

France and Great Britain face a serious shortage of milk. French food regulations forbid public eating houses to serve or consume butter except in the preparation of food. Consumption of cheese is prohibited, the probable explanation being that the milk is needed for direct consumption. Cream is forbidden entirely in public eating houses and the use of fresh or condensed milk is strictly limited. The entire milk supply is estimated at scarcely two-fifths normal.

Great Britain is also confronted with a scarcity of dairy products, chiefly the result of shortage in cattle feeds. Permits to buy milk are issued for certain classes of the population, including children under five years, invalids and nursing mothers. Others are on their honor not to buy milk unless it is for these classes.

The statement is made on excellent authority that "an adult cannot buy in London a glass of milk, even if willing to pay $20 for it. Not only butter but all kinds of fats are obtainable only in extremely small quantities. Some families are without any fats for nearly a week at a time. Ice cream disappeared from the market more than a year ago.

Hall Bros.' Holstein Sale Establishes a Record

AVERAGE OF $227 A HEAD HIGH MARK FOR UNREGISTERED STUFF

WITH an average sale price of $227 a head, a new record for unregistered Holsteins was established for the West at the dispersion sale of the Hall Brothers Western Holstein Farm near Denver early in May. Two factors were responsible for the high average—the extra good breeding of the offerings and the big demand that exists in the mountain states for dairy stock that will put milk in the pail. The sales of catalogued animals amounted to 113 head on which the average was as stated. In addition there were 21 head of heifers sold that had not been catalogued; these averaged $100 a head.

Only one registered animal was disposed of, this being an exceptional young bull, Sir Johanna de Colantha Ormsby, 192531, bred by W. J. Gellette & Sons of Rosendale, Wis., and bought as a calf by Hall Brothers. Leroy Wailes of Milliken bought him for $675, and he goes into the Johnstown condensery district.

Johnstown, La Junta, Holly and Fort Lupton condensery districts all were represented in the list of buyers. In fact, cows from this sale go into every dairy district on the eastern slope and some into Wyoming. Morgan county was a heavy buyer, a number of good animals being picked up by Jewelfield Farm. Practically every dairy around Denver was represented at the ringside and cows were led away or shipped to Golden, Brighton, Littleton, Wheatridge and other suburban points, where they will continue to supply milk for the domestic market at Denver.

Hall Brothers have decided to devote themselves entirely to the breeding of registered stuff, the demand for pure breds being so urgent in the mountain states. They have developed a herd that has a reputation for high production. The fact that the animals in the sale were raised on the place and bred by and to their great herd sires, was known among dairymen, hence the great interest and the big attendance.

There was such a consistent clinging to a figure around the average that it became plain, before the sale had advanced very far, that the audience was made up of experienced dairy farmers, who knew the reputation of the herd and who knew just about what a high producing Holstein cow is worth these days. It was a demonstration of the fact that the best test of a cow is not in the registry papers, but in performance. It indicated further, that these neighbors of the Hall Brothers had confidence in their work as breeders and were willing to put their money into an investment that would return a profit as soon as installed in the new home.

Upper Picture: Dairy Barn on Western Holstein Farm
Lower View: In the Auction Ring at the Hall Brothers' Sale

While good breeding is the first essential, it takes care and feeding to keep up the herd. In this line Hall Brothers have a very simple and wholesome program, based on alfalfa, of which they have some 200 acres. With alfalfa they feed corn silage, two big silos being used for that purpose. For concentrates they use a light grain ration, mostly ground barley, with cottonseed meal and bran, mixed in equal parts, about one pound of this mixture to six or seven pounds of milk.

The cows are all raised outdoors the calves being started on whole milk and switched to skim at an early age, to which is then added all the alfalfa they want until eight or ten months of age, or pasture if in summer. Their plan has been to breed to calve as nearly as possible at two years of age.

The cows are only in the barn while being fed and milked and the calves, too, are raised in the open, this being the sensible and safe plan under Colorado conditions, where rough weather is the exception and sunshine makes even the coldest winter days pleasant.

Among the heavy buyers were the following: J. E. Jewell, Fort Morgan, took eight cows ranging from $190 to $275 and six heifers at $105 to $215.

W. F. Thede, Brighton, nine two year old heifers, paying $100 each for seven of them and around $200 for the other two.

W. C. Hanks & Son, Holly, bought seven cows and three heifers.

George Yeager of Longmont got four two year old heifers at $90 each, one at $175 and a cow at $275.

O. M. Emerson of Hugo bought six cows ranging from $100 to $175 each and two heifers at around $150.

B. W. Holdredge of Fort Lupton bought four heifers at $170 to $305, and two cows at $300 each.

Joe Boette of Holly bought five cows ranging from $180 to $230 and five heifers, four of them at $75 each and the other one for $225.

E. F. Shupe & Son of Littleton took three cows ranging from $140 to $275 and two heifers at $250 each.

Ben Haley of Denver bought five cows at $125 to $300 and a heifer at $200.

H. Leaderman of Golden bought eight cows at $180 to $400.

Scattering buyers who took less than half a dozen animals each were as follows: C. W. Henry, Greeley; Robert O. Park, Edgewater; W. H. Bowen, Littleton; H. T. Caudle, Golden; A. N. Heaton, Sterling; Mrs. W. H. Hadley, Edgewater; Joe Bunge, Golden; S. L. Rogers, Golden; A. Fries, Denver; H. J. Brown, Littleton; J. B. Brown, Green Mountain farm; State Industrial School for Girls; Victor Danielson, Stock Yards Station, Denver; H. Anderson, Morrison; A. A. Blakeley, Denver; Albert Lund, Denver; S. W. Nelson, Wheatridge; W. D. Snider, Littleton; Bertha E. Fulkerson, Cheyenne, Wyo.; Andrew Kaid; W. T. Scott, Boulder; Charles E. Salin, La Junta; D. R. Stephens, Longmont; M. E. Blanford; James Kelley, Jr., Golden; Clarence Buhler, Boulder; W. T. Scott, Boulder.

War Forces Great Changes in Farm Economics

FOOD ADMINISTRATOR TALKS ON MATTERS AFFECTING PRODUCER

Changes of great moment are in progress in our economic structure. These changes are due to the war. They are of vital interest to the farmer, because his industry is the foundation of all other industries. Without the food producer the engine of commerce cannot move. The ultimate result of these changes no one can foresee, but we can all watch the current. Illuminating facts come to us from a recent address by Herbert C. Hoover, United States Food Administrator. It is thru the functions of his office that we are developing a new national trade conscience, affecting producer, middleman and consumer. We regret that we cannot publish the entire address, but read carefully the following extracts and then study the problem from your side as a producer.—The Editor.

HERBERT C. HOOVER

SO far the government has developed no principle of price-fixing as a broad economic policy. Dislocations apply first to one great commodity and then to another, and therefore our aspect of the problem is to deal with them as they arise, commodity by commodity. We are dealing with conditions and not with theories.

Disturbance thru shortage in supply, failure of inland or overseas transport, or because of the other matters with which we must contend, all lead to hardship on either producer or consumer. Our view is to review the alternative courses of action and to choose that course which leads to the lesser hardship. We are not exploiting economic reform or economic revolution.

Up to the present time, and as far as I can see at the moment, what may be called the incidental policy of the government is the only one that it will be necessary to apply, and it may be summarized in the following statement:

Every export from the United States today is under control. It is controlled that it may serve the positive military ends of the government. All of our exports are directed to supporting the Allies, or, alternatively, where we deal with neutrals, to get the quid pro quo for the sacrifice of our commodities. Thus our food experts are directed toward but a few hands on the other side of the water.

With the shortage in shipping, it has been necessary for these governments to put the available shipping into use for the common purpose, in order to secure the utmost expedition in loading and discharge at ports of call, and to arrange that it be loaded with the most advantageous commodities from a national point of view.

It was found by experience to be absolutely impossible to trust to the normal commercial agencies to select the prime commodities necessary for national existence amongst the Allies and to trust to the incidental operation of trade to maintain the maximum handling of shipping. Furthermore, these commodities are distributed by their governments under rationing systems, and thus must, in any event, come into government hands.

Therefore, the European governments have been compelled to undertake, as the consequence of shortage on supplies, the single-handed purchase of their supplies, both for civil and military purposes. There has thus grown up an enormous consolidation of buying of 120,000,000 European people, a phenomenon never before witnessed in the economic history of the world.

Furthermore, we have aggregated in this country something like 2,000,000 men under arms, and we shall probably expand our forces to three or five millions before we are finished. The buying for these men is necessarily concentrated in one agency, instead of many separate agencies as before, and we have thus a second great engine growing up in our midst as a necessity of war conditions.

In order that these two buying agencies should not get in each other's way, it has been necessary to place them under joint direction. In the final outcome, therefore, we find ourselves in the presence of a gigantic monopoly of buying just as potent for good or evil as any monopoly in selling, and in many instances either making or influencing prices. Therefore, not thru any theory, but thru an actual physical fact, the price made by this gigantic buyer dominates the market.

Change Your Fixed Notions

This is price-fixing in a light never contemplated in economic history or theory, and it is time that economic thinkers denude themselves of their procrustean formulas of supply and demand and took cognizance of it.

In commodities where this situation arises, the government must necessarily regulate the price, and all theories to the contrary go by the board. So far among food commodities only wheat is positively involved and pork prices are influenced by the volume of buying.

It is entirely possible for the government to make these purchases to the best advantage of the Allies and to the Army and Navy and to disregard totally the civilian population, either the consumer or the producer. Where these purchases aggregate to such a volume as to make inroads on the normal consumption of the civilian it would mean that the residue would go to the highest bidder.

This would be conservation again for the rich and not for the poor, with a vengeance. Had we allowed this to go on in wheat, flour would today be $40 a barrel, instead of at a universal price of practically $12.

The producer is also subject to dam-

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Progress of the Pig Clubs

Twenty-one boys and girls selected pigs on the J. O. D. Ranch at Aroya, Colo., about the middle of May as a start in Pig club work. Mr. D. Schilling, proprietor of this famous hog and cattle ranch, is a breeder of Duroc Jerseys and has one of the largest and best droves of that breed in the entire West. In order to stimulate hog raising he made the very liberal offer of purebred gilts to club members at $10 each, to be paid for in cash, on note, or in shares of half the litter.

W. E. Vaplon, State Club Leader and J. T. Tingle, specialist in Pig club organization for the United States Department of Agriculture, were at the ranch with the boys and girls from neighboring districts to help select pigs. The distribution was by lot, all the pigs being from six to eight weeks of age and weaned. The club members have the privilege of bringing them back to the ranch for free service at breeding time, or they may buy purebred registered boars on the community plan for this purpose. All but three of the 21 gilts selected went to Cheyenne county, where the club work is in charge of Mrs. Esther Weir, county superintendent of schools, as no county agent has yet been appointed. The others went to club members in Lincoln county.

The pig drawing was a lively scene and Wiswall, a Denver motion picture man, was on hand filming it for the movies.

E. D. Smith, County Agriculturist for La Plata county, came over to the Eastern slope during May to select purebred pigs for 60 club members in that county. The demand there is for registered stuff and, with few exceptions, Duroc Jerseys were the choice of the young people. A fund of $3,000 was raised among business men and farmers to finance the young people in this work. John Waters and J. E. Minner, two prominent sheep men, were the prime movers in raising this fund, taking it upon themselves to get the work under way. Their efficient help was greatly appreciated by the County Agent.

Reports of progress in Pig club organization come from other county agents to State Club Leader C. E. Lovett as follows:

Douglas County, V. R. Tucker: "Thursday Mr. Francis Chisholm, Assistant State Club Leader, was here and we went to two schools and talked to the boys and girls about club work. Before going we made arrangements with the bank to loan the boys or girls money on Pig club work. We also visited the creamery at Sedalia and Mr. Crows said he would give whey free to any patron. There are several boys and girls at Sedalia that will go into club work and will make good profit, as whey will be furnished free and it has half the feeding value of skim milk."

Fremont County, R. R. Jeffries: "Completed arrangements for pigs for all the Pig club members. Visited Spencer Penrose farm and selected twenty-three pure bred Durocs for the clubs. Mr. Penrose is giving the members these pigs at $7.00 apiece. All are eligible to register. Warden Tynan of the penitentiary is giving the boys Berkshires at the same price as Mr. Penrose. Cross breeds from the penitentiary which are grown for butchering are sold to the boys at $5.00 apiece. If all the boys raise their pigs to six months old it will mean an increase of about 10,000 pounds of pork in the county."

Logan County, Geo. C. Burckhalter: "There are at present forty-one boys and girls enrolled in the Pig club work in this county. This is a better beginning than we had hoped for and we are finding it difficult to obtain the pigs required in this work. The rules are that each member obtain a registered pig farrowed after the first of March. These pigs cannot be obtained in the county."

Must Ship Potatoes in Bulk

The famine of potato sacks is now so acute that everything points to the necessity for bulk shipments thruout the mountain potato growing districts. Sacks were one of the big items of cost that made the 1917 season disastrous to many growers, on top of the slump in prices brought on by car shortage and freight congestion during the winter months. While growers in the mountain states are accustomed to sacking and prefer to handle the crop that way, because it keeps the spuds in better condition and causes less damage in handling, it is felt that the war emergency will force the temporary abandonment of sacking.

Prof. E. R. Bennett, potato extension specialist of the Idaho College of Agriculture, estimates that it cost growers from $22 to $45 per acre to sack the 1917 crop and that prices have since increased so that this season it will cost from $37.50 to $75 per acre for sacks, according to the yield. The price of sacks is now about $25 per hundred.

Colorado growers, also, have been discussing the sack question, the opinion being that, whether they like it or not, they will be forced to come to bulk shipments. Just what effect this will have on grading is problematical. The principal business of the growers is to supply food, and such economies as the war forces in the handling and shipping of the crop must be accepted with good grace and the feeling that these apparent backward steps are temporary expedients. Use up the old sacks and arrange to ship most of the crop in bulk, is the sentiment.

Prof. Bennett's reports indicate a decrease of about 35 per cent in the potato acreage of Idaho. Colorado's decrease is probably not over 10 per cent in the regular growing districts.

Maximum Alfalfa Yields

Few fields of alfalfa are producing full crops. Why? First, because the land is not properly prepared. Second, because not always good quality of seed is used. The best seed obtainable is always the cheapest. Often not enough pains and care is taken to sow intelligently. That is, the main idea seems to be to sow as many acres per day as possible; any old way to get the work done. Then, after a stand is obtained, it is usual, in too many cases, to use all the water, when we have it, one can get on the land and let it go at that. Cut when Tom, Dick and Harry say it is "just right;" not studying the season or giving consideration to what experienced men have found out by serious study of the plant.

Any mower in proper order with sharp sickles and good team will cut a field of alfalfa that makes twice as much tonnage per acre as is usually found, just as easily as when cutting a smaller amount per acre.

But neglect (and that is the right word to use), is one of the vital causes of poor crops and deterioration year after year of the stand, thru lack of cultivation, weeds and lack of manure.

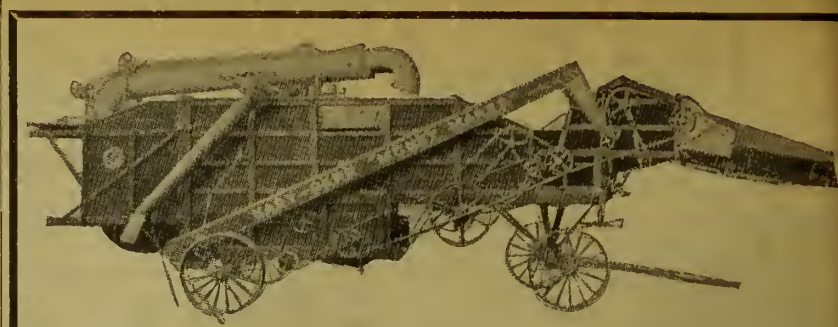
Assuming we have a good stand, what should be done to keep our field vigorous and thrifty? The following suggestions may be worth consideration, inasmuch as they will appeal to those who must agree with the writer if they will look into the subject from a commonsense point of view.

No weeds should ever be allowed to gain a foothold. Cultivation with an alfalfa cultivator or spring tooth harrow done at the right time and done thoroly, will bar all weeds, besides stimulating the vigorous growth of the alfalfa; also help to retain the moisture in the soil, as well as putting the soil in splendid condition to receive any moisture that falls thereon.

Alfalfa improves one's land. Yes, opens up sub-soil, puts organic matter in the soil thru decayed roots and last, but not least, nitrogen. But why not recognize that all vegetation takes out of the soil some fertility? And so we should recognize that alfalfa gives and takes. Therefore, those who want maximum crops indefinitely (and I mean this), for many years, can, by proper cultivation and thru the application of manure, succeed in getting maximum yields of splendid quality, minus weeds.

It will pay those who prefer big cuttings of alfalfa to keep some sheep. Feed some every winter. Have sheds and corrals. Be properly fixed to take care of them. Feed alfalfa and some grain. The better the quality of feed used the better the quality of manure.

Anyone trying this will be actually astonished (that is if without previous experience), what effect this manure will have on alfalfa. Sheep intelligently handled pay big profits. Buy in fall; sell in spring.



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Most durable, most efficient, and requires less speed and power because of its non-cloggable six fan blower, extra third roll auxiliary feeding device, strong and durable triple-braced steel frame, steel blower, positive automatic safety device, and special, spiraled tool-steel knives, giving perfect shear cut. Direct drive to blower insures elevation—no chains to break, no belts to slip. No silo too high, no job too hard. *Absolutely guaranteed.* The product of 27 years' experience making ensilage cutters exclusively.

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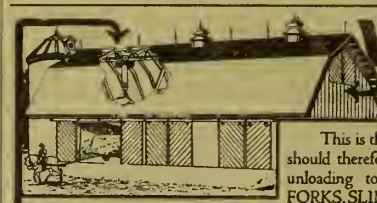

YOUR BARN IS YOUR WORK SHOP

This is the most important building on the farm—It should therefore be equipped with modern hay and grain unloading tools such as MYERS UNLOADERS, FORKS, SLINGS, PULLEYS and FIXTURES. This will mean fast unloading service for hay, grain, fodder and similar crops when hauled in on the hayrack, for Myers Hay and Grain Unloading Tools are uniformly built, have large capacity, and are so designed as to permit speedy unloading from the rack into mow or onto a stack.

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F. E. MYERS & BRO.
NO. 140 ORANGE ST.
ASHLAND, OHIO.

1. Get a good stand of alfalfa.
2. Do judicious cultivation and do not be afraid of hurting your alfalfa. You cannot and won't. It takes a real sharp plow to hurt alfalfa.
3. Try manure made from well fed sheep, if only on one acre.—Dr. Vernon T. Cooke.

Horses Have a Cough

Question: Please tell me what is the matter with my horses. They seem as well as usual, then they begin coughing, and the food runs from their mouths and noses. They seem to have difficulty in breathing. It only lasts a short time.—Subscriber, Weld county.

The symptoms described above indicate either a cold in the head or sore throat or laryngitis. If this is a plain cold, a period of rest with good feed will be of greater benefit than medication. Plenty of pure air is necessary, but drafts must be avoided. If the cold is severe, the inhalation of steam is advisable. Hold the horse's head over a bucket full of boiling water so that the animal will be forced to inhale the steam; stirring the hot water causes the steam to rise in greater abundance. Have them inhale steam four or five times a day for fifteen or twenty minutes each time. Feed well with bran mash or scalded oats, and grass if in the pasture season.

If this is a case of laryngitis, the symptoms will be about as follows: About the first symptom noticed is cough, followed by difficulty in swallowing, which may be due to soreness of the membrane of the pharynx, over which the feed or water must pass, or from the pain caused by the contraction of the muscles necessary to impel the feed or water onward to the gullet; or this same contraction of the muscles may cause a pressure on the larynx and produce pain. In many instances the difficulty in swallowing is so great that water, and in some cases feed, is returned thru the nose. This, however, does not occur in laryngitis alone, but only when the pharnyx is involved in the inflammation. The glands between the lower jawbones and below the ears may be swollen. Pressure on the larynx induces coughing. The head is more or less "poked out," and has the appearance of being stiffly carried. The membrane in the nose becomes red. A discharge from the nostrils soon appears.

Treatment: Steam the nostrils as advised for cold in the head, keep animals in comfortable dry stalls and feed as above suggested.

If the animals have constipation, relieve by enemas of warm water administered three or four times in twenty-four hours. If there is continued difficulty in breathing, keep up the steaming process and give chlorate of potassium. Dissolve two drams of this drug in every gallon of water the animal will drink. This will act as a gargle.

Cucharas Valley Herefords

In the beautiful Cucharas valley, under the shadow of the Spanish peaks, C. L. Martin grows Beau Mischief Herefords to perfection. The whitefaces feel at home in these highland valleys. Seven thousand feet above sea level is a favored altitude for them. Here bluegrass is native, pure mountain water is plentiful and timothy makes a meadow rich in flesh forming material.

The Martin home ranch is at the edge of the town of La Veta in Huerfano county, and comprises 330 acres of fine land bordering the Cucharas. A few miles back in the hills is a mountain ranch of over 1,000 acres also owned by Mr. Martin, and bordering this a vast area of United States Forest domain, on which there is pasture land to lease during the summer season. Grass, grass everywhere and the stock shows the effects of nature's balanced ration.

Accompanied by County Agriculturist Waldo Kidder the writer visited the Martin ranch recently, to look over the herd and take a few snapshots.

We caught Mr. Martin and J. F. Ritter, one of his neighbor ranchmen, riding thru the pasture. They rounded up the bunch shown on the cover of this issue out of the fifty odd head of breeding stock. Looking closely one will see a good many of the new calves. There was a good calf crop this year and every head means money. Mr. Martin sold all his bull calves at weaning time at $100 a head last season. In the calf barn we saw more of this young stuff, bulls and calves of evident class, such as one would reasonably expect from Beau K, whose acquaintance we made a short time later. Beau K, the herd sire, is a double Beau Mischief bull; enough said to properly introduce him. He is a five year old and he maintains the honor of his distinguished ancestry in royal fashion.

Mr. Martin has been breeding Herefords at La Veta since 1905. Everything that has been said in favor of the whiteface breed for western conditions he has found to be true. He has found, also, that good blood improves under high altitude conditions, in the hands of experienced breeders. Cattle respond to a salubrious climate the same as a human.

With snow always in sight on the neighboring peaks there is vigor in the air, winter or summer. A high percentage of sunny days and ample water force vegetation during the growing period; the virgin soil furnishes the chemical elements that make the grasses rich in nutrition. There is nothing so good, green or cured, as mountain hay. The rarefied atmosphere develops the breathing machinery of the animal. Looking at the herd one could plainly see the effects in the vigorous lines, soft, thick coats, life in the eyes, showing all the characteristics of the breed intensified, and lacking sluggishness that is found in the stall fed Herefords of the east. These cattle have life and sprightliness and they get it from their mountain environment.—A. T. S.

Order Binder Twine Early

Farmers are earnestly requested to place their orders for binder twine requirements as soon as possible, so that the local dealers can provide by early shipment for an adequate supply of twine to meet their harvest requirements. Shipping conditions are such that more time must be allowed from factory to local distributing points to avoid danger of shortage in supply.

The pre-war price for Mexican sisal, which comprises the bulk of binder twine, averaged about 7c per pound. It was 7 1-2 landed at ports of entry in June 1916. In July of the same year, it was increased to 10c and held about at that point until December 1916, when it rose rapidly to 16 1-2 in March 1917. Last August it reached 19c Gulf ports, and 19 1-4 delivered New York.

It was at this period that the United States Food Administration decided to act, because of the imminence of further advances by the Mexican trust. Thru the efforts of the Administration, a further rise in price was prevented, altho the price of Manilla hemp rose as high as 30c per pound. Efforts since then to get a lower price have not been successful, as the production lies outside the United States.

Clover in Potato Rotation

All successful potato growers now agree that potatoes should not be grown more than once in succession on the same land, and that a potato crop should be preceded with the plowing under of a crop of alfalfa or clover. Whether the potatoes should follow immediately after the alfalfa or clover, or the year following, depends upon soil conditions. Equally good results have been obtained from both methods. On the heavier land, the soil undoubtedly would be in better condition for potatoes if an intervening crop of the grain were planted between the alfalfa and the potatoes. On the lighter soils this is not necessary. Usually the second, or the third cutting of alfalfa is plowed under, or the second crop of clover. Clover is now extensively planted in higher mountain valleys in place of alfalfa, and is giving excellent results. It is easier to kill out, and the soil can be put into perfect condition with less expense than after alfalfa.

A crop of potatoes puts the soil in the best possible condition for small grains, and the labor expended in the preparation of the land for potatoes is repaid, not only from the potato crop, but from the higher yield of small grains planted on the land. Clover lends itself better to short crop rotation than alfalfa, and, for this reason, the farmers in the higher mountain valleys can place their farms on a four year system of rotation, while in the warmer valleys and in the irrigated sections of the plains, a five, or perhaps six year rotation is better.

While at present the plowing under of alfalfa and clover has beeen a main source of fertility, the time will undoubtedly come when this will have to be supplemented with the application of stable manures, and this is already done to a great extent by our best growers.—From Bulletin No. 243, "Potato Culture in Colorado" by Dr. E. P. Sandsten, of Colorado Agricultural college. (Copies of this bulletin may be had free on application to the State Experiment station, Fort Collins.

Grange Notes

Clear Creek Valley Grange No. 4—We held two good meetings in April. The first with an attendance of eighty-five, and the second with about fifty present. One meeting every month is allotted to the lecturer. A mock wedding was the feature of the second meeting. The lecturer took an exchange program to Wheatridge Grange April 26th, and the same program was taken to Enterprise Grange May 15th. This program will also be taken at a later date to Fremont and Westminster Granges.

We have made wonderful progress and are now the Banner Grange of the state and still growing.

JOHN E. MEIER, Lecturer.

The Reason

An old hen was picking at some stray carpet tacks in the yard.

"Now, what do you suppose that hen is eating those tacks for?" said Henry.

"Perhaps," responded his little sister, "she is going to lay a carpet."—Farm and Home.

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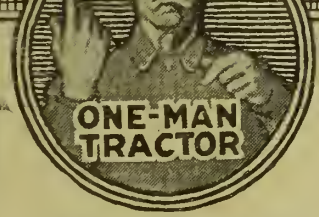

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Plow 7 to 9 acres.

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Harrow 76 acres with a 20-ft. peg tooth harrow.

Plant 22 acres with a two-row planter.

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Harvest 10 acres with a corn binder.

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Rake 40 acres with a 12-ft. rake.

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Load 12 acres of hay.

In addition, it can be used on the belt for running threshers up to 24 inch capacity, silo fillers, corn shellers, feed grinders, wood saws, clover hullers, hay presses, pumps, lighting plants, etc.

There is no end of odd jobs that can be done with the Moline-Universal Tractor.

Announcing the New

MOLINE UNIVERSAL TRACTOR

Model D

BECAUSE of its ideal design, construction and performance, this new Moline-Universal Model D enables one man to farm more land and produce more food than ever before possible. It is the world's most dependable farm hand and solves the farm help problem.

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New features include self-starter, electric lights, electrical governor, perfected overhead valve, four-cylinder engine that is free from vibration; complete enclosure of all moving parts; differential lock which increases traction in soft ground.

Every part is designed on the basis of quality and service. Drop forgings, heat-treated parts, steel cut gears and unusually large bearings add extra years of endurance.

These new features, together with the well known Moline-Universal type—all the weight on two wheels, one-man control and ability to do all farm work including cultivating—make the Moline-Universal Model D the best tractor that money can buy.

Phenomenal Pulling Power

Of its total weight of 3380 lbs., 98% is used for traction. That's why the Moline-Universal has phenomenal pulling power.

Conservatively rated at 9-18 horse-power, the Moline-Universal Tractor has more than ample power for heavy belt work. Its greater speed enables it to plow as much in a day with two plow bottoms as the ordinary three-plow tractor. Yet it is light enough for such work as cultivating, mowing, etc., which do not require as much power.

One Man Operates Entire Outfit

The Moline-Universal attaches direct to the implement, forming one compact unit. It turns in a 16-foot circle and backs with the implement attached as readily as it goes forward. One man has complete control of the entire outfit from the seat of the implement and can thus do the same work that requires two men with other tractors. Operation of the Moline-Universal is so easy that a woman or boy can handle it.

In fact anyone who can drive an automobile can run a Moline-Universal Tractor.

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The greatest care has been used in designing a full line of implements for use with the Moline-Universal. "Moline" trademark on a tractor or implement is a guarantee of dependable service.

Moline dealers are now accepting orders for Model D Tractors, and our new and modern plant—the world's largest exclusive tractor factory—is being crowded to the limit in an effort to build tractors fast enough to keep pace with the demand.

On request we will be glad to send you our Tractor Catalog which completely describes the new Moline-Universal. Address Dept. 107

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Western Farm Life

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Federal Farm Loans

That there is a concerted movement on foot to discredit the Federal Farm Loan system is the charge made recently in an address delivered by Mr. Ralph Voorhees, Treasurer of the Federal Land bank of the ninth district, before the Kansas Editorial association. On another page of this issue will be found extracts from the address of Mr. Voorhees, which show progress of the government rural credit banks and point out the fallacies in the statements circulated by private mortgage bankers in their effort to discredit the farmers' system.

It might be well for those who are responsible for this campaign of lies to bear in mind that the Federal Farm Loan system is based on co-operation among farmers; that the individual farm borrowers are also the stockholders in the system, and that the government is answerable to these borrowers for its stewardship. Behind the borrower is the land itself. The system is still new but already there are thousands of united farm borrowers whose influence in their respective states and in the national Congress is a power to be reckoned with. Neither the people who have the money to lend nor the farm borrower will be frightened by the propaganda of the middlemen, who find that the day of high commissions and usurious interest has vanished. They are adopting the course that will shear them of the remainder of their farm loan business in the quickest way. On the other hand, those who accomodate themselves to the new rates and the new conditions will continue to fill a legitimate need from farm borrowers who, for some reason or another, do not wish to join a co-operative association, or who may wish to use their borrowed capital in a way not provided for by the rural credits law.

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The Vaporings of Mr. Post

If ignorance of the subject and utter lack of sympathetic interest in the problems of the American farmer are qualifications required for supervision of the governmental bureau that is to furnish the farmer with labor during the coming summer and fall, then Louis F. Post, Assistant Secretary of Labor, is the right man for the position. Listen to these words of wisdom coming as an official statement from the United States Department of Labor under Mr. Post's signature:

"Two-thirds of the farm labor shortage is imaginary and the other third can be remedied. * * * * * there is no shortage at present except in the South. * * * We are suffering today for the sins of the past. There is hardly a sweated industry in the country which offers so poor a future as farming. * * * As a war measure, however, the farm must be made a more attractive place to work. Upon the farmers in those sections where there are labor problems I urge an immediate betterment in the wages and working conditions of the farm worker. Higher wages he must have—$45 per month with board and lodging should be the minimum. Permanence of employment is needed and this means no more hiring by the day. Shorter hours are needed; this means no more sun to sun days."

And there is a lot more in the same strain. If the task offered any hope at all of accomplishing its purpose one would be inclined to urge Mr. Post to go with us upon the farms and talk this thing over with the men who last year paid farm labor all the way from $5 to $8 a day, (with board and lodging,) to get their crops in. We would have some of these men tell Mr. Post how wheat harvesting must be done at a certain time, in a certain week and month, and how it cannot be distributed over two, three or six months; how sugar beets, onions and potatoes must be got under cover before the fall freezes ruin these perishables; how we often have to cut and stack hay on Sundays to save it from damage by rains. It might surprise him to know that the farmers agree with his statement—made in April—that no farm labor shortage existed then, but he could be told that this was no criterion on which to base optimism for July, August, September or October, when we know how many acres we have planted, how much labor it will take to harvest the crops from these acres and how many sons and farm hands have gone to war. Mr. Post's statement is evidence on its face that he is not in touch with the farm labor situation. It is to be hoped that the men his department has placed in the field to help mobilize labor for the farmers have a better grasp of the problem, and that they are approaching it with a view to aiding the nation in bringing our food crops safely thru to market and not with a view of providing soft berths, at high wages for mellow-headed, soft-handed down-and-outers from the slums of the cities. This is a business proposition demanding business judgment and not sentimentality in the men charged with the duty of solving the problem.

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Americanizing the Mexicans

Southern Colorado has a large rural population of descendants of early Spanish settlers who have been farming for generations in their fertile valleys where water is available for irrigation. These people have clung to the customs and methods of their ancestors and many of them speak Spanish or its Mexican dialect more fluently than English. Some indeed of the older people do not speak English well enough to carry on an ordinary conversation. In recent years, however, there has been a decided trend toward Americanizing these people. Nothing has done more in this respect than the organization of county agricultural agent work in the southern counties.

The writer, while driving thru the Cucharas valley in Huerfano county recently, stopped to chat with a farmer of Spanish descent, who was drilling in wheat. This man spoke English with a foreign accent,, but he proved to be thoroly modern in his farming methods. He had learned from County Agriculturist Waldo Kidder that seed wheat should be given the formaldehyde treatment to prevent smut. He opened the drill box to show us that he was following directions, the wheat showing that it had been treated. He was sowing Marquis, a standard variety of spring wheat suitable for that section. His discussion of the wheat problem—some of his winter wheat having blown out—showed that he knew his business.

Another striking instance of the fact that the Spanish speaking population of the West is being assimilated and Americanized comes from Las Animas county. Here again it is shown that the county agriculturist is the Americanizing influence. In a report to State Leader Lovett from Charles E. Smith, the Las Animas county agent, we have the following illuminating statement: "With a committee of Mexican leaders, made a trip to a Mexican community for the purpose of presenting the Liberty loan issue. These people are always rather progressive and in this they kept up their reputation, EVERY FAMILY IN THE WHOLE COMMUNITY BUYING A BOND."

This is hundred per cent Americanism that commends itself to our friends of all other nationalities who are enjoying the prosperity of their adopted country.

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Three Rousing Grunts

The man who is forever calling the farmer a tight-fisted miser who will not buy Liberty Bonds and support the Red Cross will please get out his earphone—for we assume he is somewhat deaf—and listen to a story that comes out of a valley in Colorado:

The Monte Vista Hog Growers' Association and the junior organization known as the High Order of Grunts, at their annual short course and stock show put on a sale for the benefit of the Red Cross, at which they sold a bull calf for $5,020, a ram for $4,100, a forty-eight-pound pig for $150, one dozen eggs for sixty-one dollars, and other articles, making a total of $11,576.46.

This is a record made by a farming community of thirty-five hundred people. And think of how many thousands of miles they are from the battle front.—The Country Gentleman.

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Crops on Reclamation Projects

In 1917 the 29,000 farmers on 1,000 000 acres of land reclaimed by the Reclamation Service, Department of the Interior, went over the top with a crop valued at $50,000,000, according to the report of the Bureau recently made to Secretary of the Interior Lane.

The production capacity of the American desert after irrigation is emphasized when the results of the farmers are compared with those of the humid states. The 1917 crop from reclaimed lands exceeds in total value by $11,000,000 all the crops of Maine, as shown by the Census reports of 1909. It is greater by $7,000,000 than the combined crops of New Hampshire and Vermont, and only $4,436,000 less than the total crop values of Massachusetts and Connecticut.

The gross average of $50 per acre for crops grown on the government's irrigated farms is remarkable when compared with similar statistics for all farms in the United States, the average yields of which in 1909 were only $16.30 per acre. Such returns should at least allay the apprehension, if any now exists, that these farmers will not be able to return the investment of money which has been made by the government in constructing the irrigation systems. On several of these projects a single crop will suffice to return the entire investment.

Substitutes Should Be Cheaper

According to a warning sent millers and dealers thru the Federal food administrators in all states, cornmeal and oatmeal should be at least 20 per cent cheaper than wheat flour, and corn flour and barley flour should be 10 per cent cheaper. The administrators have also been advised that the attempt of certain bakers to advance the price of bread is not justified by the price of substitutes. Car shortage and storm weather caused high prices last winter, but now that there are liberal supplies of flour substitutes, high prices must be explained and justified to the state and local administrators. Every buyer is called on to assist the local food administrator by reporting any attempt to overcharge for substitutes.

War is an ugly thing to but a German peace is uglier—Russian farmers are producing German food.

The Branding Iron

Applied by Elias M. Ammons

Western senators and congressmen should lose no time in heading off the fight to postpone the operation of the enlarged homestead law. Experience has demonstrated that livestock production has grown in direct proportion to settlement and increased farming.

This season 35,000 acres of spring wheat were planted in Garfield, Mesa, Delta and Montrose counties.

Early maturity with no waste of grass or feed is fast becoming the slogan of the livestock world.

Everybody in the country should raise poultry, not only to furnish eggs and substitutes for meats needed abroad, but to have plenty of roosters on hand to celebrate the victory for democracy in true democratic fashion.

Mr. E. D. Smith, Agricultural Agent of La Plata county has been doing a most commendable work in improving livestock in the San Juan basin. During the past year 13 cars of blooded cattle and hogs have been shipped into that section and wide interest has been created in better breeding. This great basin has ideal conditions for livestock growing. With extensive good ranges in the mountains sloping down to a splendid alfalfa and corn producing country, there is no better natural meat producing section in America.

When wheat became scarce and threatened to go to prohibitive prices a limit was fixed by the government. Now that war conditions require an unusual number of people in Washington, those who are living at the expense of the government seem to be taking advantage of the situation and are charging unheard of prices for board and lodging. Authorities should begin their regulation at home and show their good faith by stopping hold up profiteering at the expense of visitors to the national capital.

In addition to the 35,000 or 40,000 acres shortage in the sugar beet crop in Northeastern Colorado the acreage in the Arkansas valley has fallen off in equal proportions, so there is talk of not operating part of the factories this year. The crop planted in the Grand Junction territory is equal to that of last year.

The Agricultural and Live Stock Bureau of the Denver Civic and Commercial Association has worked out a plan by which every person may help in crop production this year. Under this plan you need not own or even rent a farm. It is to be hoped city people will become interested in a chance to help increase production to whip the Hun and at the same time advance the permanent growth of the state.

There is one crop that never fails in Colorado. Drouth nor rain never affects it. It may be above normal; it is never less. It doesn't even have to be planted, and only Father Time can harvest it. It is not an annual or a perennial; it is a biennial. Neither frost nor fire can kill it; it ripens early and will wait for years for the harvester. It is the crop of Office Seekers. The patriotism of the present year has made this crop the largest and most flourishing in history. Why not swap it for a crop of wheat and eliminate the necessity for so many substitutes next winter?

Boost From a County Agent

Western Farm Life:

I wish to thank you for your letter of May 1, in which you offer the complimentary subscription to our Farm Bureau which is in process of organization.

WESTERN FARM LIFE fills a great need among the farmers and stockmen of Colorado, and for several years I have enjoyed reading it.

D. C. BASCOM, County Agent,
Larimer county.

Comment by Farmer Putnam

HE TRIES TO SELL THE SPANISH PEAKS TO AN ENTHUSIASTIC FRIEND FROM TEXAS

Stove Prairie, Colo. (Bellevue R. F. D. 2).

BEEN down in Las Animas county visitin' Pinto Smith, the county agent, and in Huerfano—tbat there is pronounced just like you spell it—gittin' acquainted with Waldo Kidder. Before we go on I don't want none of you highbrows to come back at me with a letter kickin' about my pronuncin' Huerfano. I mean just what I said about callin' it just like it's spelled. That's the way it's pronounced, mostly. I ain't a sayin' that it's right or wrong. People ought to a-had more sense than givin' them counties furrin names. Still when you look over the population you'll find it's nearly like a furrin country, they bein' from a dozen different nations, includin' a lot of Slovaks from Austria that is glad they is over here and don't have to fight fur the Kaiser.

Them furriners mostly works in the coal mines, but they is quite a lot of the Italyuns in the gardenin' business and raisin' goats, and the Mexicans is more farmers than anything else. I was expectin' to see Mexicans plow with a forked stick, but they has give that up ever since the county agents landed down in that country. We was drivin' along with Mr. Kidder over from Walsenburg to La Vety when we seen a Mexican drillin' in wheat. We climbed the fence and walked over to talk to him. I was expectin' him to be about fifty years behind the times, but he was so durn up to date that I took off my hat to him. He was sowin' Marquis wheat and the seed was treated with that thar for-mildew-hyde, just like Kidder told him to do.

I sez to Kidder: "Did you have that Mexican planted out here on the mesa to show us that you was a good county agent, or was this just a accident?"

"No accident, I assure you," he sez, "they all do it."

We had a great time with one of the men in the car. He was from Dallas, Texas, and I knowed him back in Missouri, but I don't want to mention his name on account of the war. I asked him if his folks didn't come from Germany and he said, "No, I'm a Tootonic extraction." We has lots of them Tootonics among us; I used to think they was all German, but the war makes a difference. Them Rooshians in Northern Colorado used to say before tbe war broke out, that they was Germans, and since the war they sed they is Rooshians. I don't know as I blame them much.

Well, our friend Texas was crazy about them Spanish peaks and every few minutes he made Kidder stop the Ford, so's he could git out and take a picter. I seen he was enthusiastick, so I offered to take him to the ranchman that owned them peaks and see if we couldn't make a deal to buy em. Texas said he would buy 'em if he was allowed to move 'em down to Dallas, where they could cool off the atmosphere in summer. He sez: "Now Put, don't be stringin' me all time, who does own them two peaks?"

"Bill Jamison, up here to La Vety," sez I. "He comes from Texas too. We'll take you over to his ranch if you want to dicker with him."

Sorry to report tbat Bill warn't to home, or we would-a sold the Spanish peaks, snow and all, because Texas was wild about the scenery by that time, and Bill's a feller tbat'll make a trade with anybody that's fair. We might-a had a little trouble about the title, but I reckon we could-a got around tbat by tellin' Texas that any time he got ready to move the peaks to Dallas we would release the mortgage and give him a quit claim deed. I've seen harder deals than that pulled off without a hitch and the fellers that done it is still at large, seekin' who tbey may devour.

I don't know as a feller could blame Texas so much fur wantin' them peaks. I felt some myself like buyin' the hull Cucharas valley, specially when we got up to La Vety and seen them cattle on Martin's ranch. It was a sight to delight your eye. Somehow; you put whitefaces out in a green pastur', backed up by blue snowcapped peaks and you got a picter that's fit to paint, but nobody kin paint it. I don't know nuthin' about art, but when I looks at them hills of ours I feel like if I was a artist I'd be ashamed to try to paint em', so feeble would be the effort.

Before the war broke out people used to go over to Egypt to see them pyramids that was built by slaves three or four thousand years ago and they would look at 'em in wonder and pay a Arab a dollar to show 'em round. Before anybody thought about pyramids, or before they was any Faros or other human or inhuman kings, we had them two natural pyramids now called the Spanish peaks right here in Colorado. They is thirteen thousand feet high and thirteen thousand centuries old. They has got snow in the gulcbes on top that was thar about the time the North pole was a young saplin' and hain't never melted yet. We got no end of them kind of peaks in this here western country and everybody is welcome to climb over 'em, walk around 'em and photograph 'em. We a-livin' here in the shadow of them wonders don't realize what we got till some feller like my friend Tooton from Texas comes up and goes crazy over the scenery and tries to buy a peak or two to take back home with him.

Well I reckon it's a good thing they got firm foundations, because if they wasn't spiked down in bedrock some of our enterprisin' land men would-a disposed of the "choicest locations" to eastern suckers long ago.

Not to change the subject, but I got a letter from a lady signin' herself "Cowgirl" and objectin' to the boost I give the dairy cow in my Johnstown article. Well, lady, I apologize. You see when I'm in a dairy section I has to write that nuthin' kin beat the dairy cow, and when I git into a beef country, why naturally the beef breeds is it. In this writin' business you got to practice more or less camelflage. Mrs. Cowgirl's letter is a follows:

Orchard, Colo., May 1, 1918.

Mr. Thomas Jefferson Putnam:

In a recent article in Western Farm Life you remarked that you have to kill a beef cow to get any good out of her. I think you certainly owe the beef cow and those who raise her an apology.

A beef cow goes on producing calves year after year just the same as a dairy

Turn to Page 11

Don't Send a Penny

These Len-Mort work and outdoor shoes are such wonderful value that we gladly send them, **no money down.** You will find them so well-made and so stylish and such a big money saving bargain that you will surely keep them. So don't hesitate. Just fill out and mail the coupon. We will send a pair of your size. No need for you to pay retailers' prices when you can buy direct from us—and know what you are getting before you pay even a penny. Dealers get $5.00 and $6.00 for shoes not near so good. Act now. Mail the coupon today while the special offer holds good.

Great Shoe Offer

We can't tell you enough about these shoes here. This shoe is built to meet the demand of an outdoor city workers' shoe as well as for the modern farmer. Send and see for yourself what they are. Built on stylish lace Blucher last. The special tanning process makes the leather proof against the acid in milk, manure, soil, gasoline, etc. They outwear 3 ordinary pairs of shoes. Your choice of wide, medium or narrow. Very flexible, soft and easy on the feet. Made by a special process which leaves all the "life" in the leather and gives it wonderful wear-resisting quality. Double leather soles and heels. Dirt and waterproof tongue. Heavy chrome leather tops. Just slip them on and see if they are not the most comfortable, easiest, most wonderful shoes you ever wore. Payonly $3.65 on arrival. If after careful examination you don't find them all you expect, send them back and we will return your money. No obligation on you at all. This is at our risk, not yours.

Leonard-Morton & Co.
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Send the Len-Mort Shoes prepaid. I will pay $3.65 on arrival, and examine them carefully. If I am not satisfied, will send them back and you will refund my money.

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Scenes of Prosperity

are common in Western Canada. The thousands of U. S. farmers who have accepted Canada's generous offer to settle on homesteads or buy farm land in her provinces have been well repaid by bountiful crops of wheat and other grains.

Where you can buy **good farm land at $15. to $30. per acre—get $2. a bushel for wheat and raise 20 to 45 bushels to the acre** you are bound to make money—that's what you can do in Western Canada.

In the provinces of Manitoba, Saskatchewan or Alberta you can get a

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During many years Canadian wheat fields have averaged 20 bushels to the acre—many yields as high as 45 bushels to the acre. Wonderful crops also of **Oats, Barley and Flax. Mixed Farming** is as profitable an industry as grain raising. Good schools, churches, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. of Immigration, Ottawa, Can., or to

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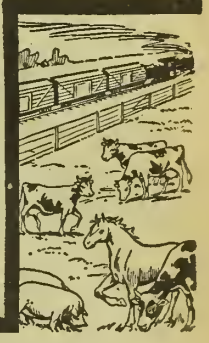
Dunn Block, Great Falls, Mont.
Canadian Government Agent.



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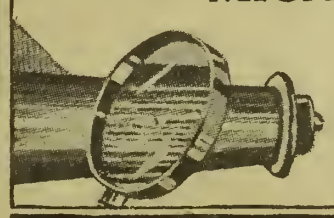

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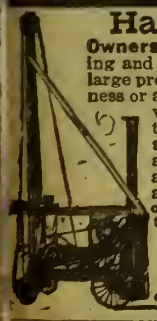

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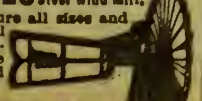
We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.



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GEO. E. MORTON

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Breeding Holstein-Friesians.

One is getting on ticklish ground when they leave the field of general breeding and start to lay down rules or give suggestions for the breeding of a given breed of livestock. One naturally has his own beliefs and prejudices with regard to livestock that he is working with, and those are based on a limited experience; however, I shall make some comments on the breeding of those breeds with which I am more familiar, hoping the reader will take them as personal opinions and as giving one angle of the subject, rather than take them as rules for breeding.

The Holstein breed, for one reason and another, is a popular one in Colorado and in a number of the mountain states. Popularity is both an advantage and a danger to a breed. Popularity enables one to sell more stock at higher prices, but it also enables one to sell bulls that by rights should go to the butcher, and it has been the history of more than one breed that its popularity has put so many cull animals at the head of herds that there has been a reaction against the breed. One should be extremely careful in selecting sires to know that they are something more than registered animals, and a breeder should not attempt to sell an unusually poor individual simply because the market will take him.

Any breed of cattle that has more than one color in the breed is subject to color fads. There has been such a color fad among Holsteins, black bulls and cows both being discriminated against. As a rule, color has absolutely nothing to do with milk production, altho of course, a certain color might easily become correlated with high production. There is no evidence of this among Holsteins. Some of the heavy producing cows of the breed have been far more black than white. Americans seem to like white in domestic animals.

A favorite ideal of the gentleman farmer fixing himself a playground in the country is to have white cows, white hogs, white chickens, and even white dogs. The white Ayrshire seems to be preferred in this country to the one showing red. It is true that with pure bred stock it is worth while for the breed to build to a standard that is pleasing to the eye of the consumer, and this ability of the animal to give satisfaction must be considered; nevertheless, when there are two or more strains in the breed showing different colors, and the numbers of the breed are practically evenly divided between the colors, to allow a color fad to gain ascendancy in the breed means eliminating from usefulness a large number of valuable animals; and when the color fad is carried down into grades, and light colored heifers sell for ten dollars a head more than black ones, the transaction becomes ridiculous and the purchaser shows his lack of ordinary common sense in a business transaction.

In all breeds where there is an advanced production standard, there arises a school of breeders who claim that form is nothing and production is everything. I discussed this point more fully in one of my previous articles, and simply want now to apply the principle to the present status of Holsteins. I have seen Holsteins from the Atlantic coast to the Pacific, and while I may acknowledge prejudice in favor of the type that I consider best, nevertheless, I can give my reasons for the prejudice.

The tendency to breed on production records alone, disregarding the type which has made the breed great, seems to me, in certain of the eastern states, to be reducing the scale of Holsteins and changing their type from that of a robust, vigorous, rather square built animal, to a thin necked, sharp withered, slack constitution type that one can find here and there in every breed. The western type of Holsteins is a larger, more rugged animal. It would be foolish to breed for size alone, just as many breeders of hogs have shown their lack of wisdom in recent years in breeding for size alone in hogs, and forgetting almost everything else that goes to make up a good hog. But if one holds in mind the reasons for which he wants size and demands with size the vigor and robust character that usually do go with it; then, if the advance in size is made gradually, he will find, according to the belief of most western breeders, at least, that he has a better animal for our purposes than the extreme hothouse forcing type of Holsteins.

In breeding Holsteins, I believe in letting the heifers go close to thirty months before calving. There is a theory of long standing held by dairymen, that early calving causes a heifer to develop into a heavier and more persistent milker than she would become, if allowed to calve at a later age. I believe there is something to that theory, but the age of calving must depend upon the characteristics of the breed, and I believe you can carry any dairy heifer to a greater age than most breeders do before having her calve, so long as she does not become steer-like in her appearance; and while the production of the heifer during her first lactation period will not be heavier in proportion to the extra months of age, my observation is, that she will go on stronger every

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Does away with the risks that necessarily attend the use of a serum that is not germ-free.

It is 20% more efficient, measure for measure, than the old type, "bloody" serum, is much more quickly absorbed, does not discolor the flesh at point of injection, and carries no liability of producing abscesses.

80 c.c. of Cutter's Refined Germ Free Serum is just as efficient as 100 c.c. of the best old type "bloody" serum.

But we make the old type serum, and do the job so well that though **we have sold several million c.c.** since we started production in 1917, there has been **not even one complaint of failure** to protect, or of bad effects following its use.

So, whether you use the old or the new kind, insist on "Cutter's," for in either case you will be getting the best that can possibly be produced.

Remember, a serum may be "clarified," or "clear," and still not be germ free. Such a serum is almost as dangerous as a "bloody" serum. **Cutter's Refined Serum is not only clear but it is Germ Free.**

Write for our two new booklets, "Hog Cholera Prevention," and "Special and Detailed Information Concerning Hog Cholera Immunization." **From the latter you will learn** what constitutes good work and why a competent veterinarian should be employed.

Prices.

Cutter's Refined, Germ-Free, Anti-Hog Cholera Serum is 2½ cents per c.c.

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Cutter's Hog Cholera Virus, for use with either type of serum, is supplied at 1½ cents per c.c. **It is dependable.**

We prepay shipping charges.

Let your veterinarian order for you and **encourage him to be liberal in estimating the amount of serum to use;** safety lies in giving more than may be needed rather than trying to figure too fine.

Should he be prejudiced in favor of some other serum, there is a reason that concerns him but not you, except insofar as it should make you more insistent that Cutter's Serum be used. **In such case do your own ordering direct from us.** You will get "Cutter's" promptly, prepaid.

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THE "ACID" TEST OF VALUE

At an auction sale the buyer makes the price.

Auction prices are apt to be lower than the real value warrants, rather than higher.

In any case, auction prices represent the estimate of value placed on the article by the buyer and not the seller.

During the past few months, the cow owner's appreciation of the unusual values offered in De Laval Cream Separators has been demonstrated in a most remarkable way.

From one state after another have come reports of the sale of De Laval machines at farm auctions—machines which had been in steady use for several years—at prices, in most cases, only two or three dollars less than the sale price when new; sometimes at practically the same price at which the machine was sold when new; and, in several instances, at even more than the original list price.

In February, at a Missouri auction sale, a De Laval in use two years was sold for $1.25 above the original purchase price. In Kentucky a farmer paid for a De Laval $2.00 more than the original price, at an auction sale. Last January, in West Virginia, a second-hand De Laval sold at auction for $2.50 less than the original catalog price. On January 15th, in Ohio, a De Laval machine in use a year was sold at auction for exactly the same price it brought when new, and at another point in Ohio a De Laval in use several months brought several dollars more at auction than the original list price.

In the province of Ontario, early in April, a De Laval in use since 1916 brought at auction a price $5.00 higher than the owner paid for it when new.

In contrast with these prices paid for De Lavals at farm auctions, it is interesting to note that when other makes of cream separators are offered they are usually listed simply as a "cream separator," and not by name. Often there is no bid for such machines and their usual auction prices run from $10 to $15. We have never heard of one that sold at auction for half its original cost.

Perhaps you may not have had an opportunity to learn of the cleaner skimming, easier turning, the great durability and the splendid service given by the De Laval machines, but here is the strongest and best sort of evidence that those who do know cream separators appreciate that the man who buys a De Laval gets good and generous value for the purchase price. And further, that even after a De Laval has been several years in use, it is practically as good as new.

If you are without a cream separator or in need of a new or better one, why not see the local De Laval agent immediately? If you don't know him, address the nearest De Laval office as below, for any desired particulars.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York — 29 E. Madison St., Chicago

Only $2 DOWN ONE YEAR TO PAY

$29 Buys the New Butterfly Junior No. 2. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in five larger sizes up to No. 8 shown here.

30 DAYS' FREE TRIAL Earns its own cost and more by what it saves in cream. Postal brings Free catalog-folder and "direct-from-factory" offer. Buy from the manufacturer and save money. 125,000 now in use

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year and be a heavier producer as a mature cow in general. In a breeding herd, you must consider the vigor of the offspring, and the ability to breed vigor from generation to generation just as much as you consider the production in one year at the pail.

The breeder of Holsteins should try to fix in his mind a definite type, and ripen his judgment along the lines of that type. There are many bulls selling in the thousands of dollars that are very far from the accepted type of the breed, and if one gets a wrong type fixed in his herd, it is very difficult to improve rapidly. Type and production should go hand in hand. You must remember here that it is much more difficult to bring the two things along together, than it is to maintain only the one, but there is also far more pleasure in it when accomplished.—G. E. Morton.

Pigs May Have Paralysis

About one month ago I bought two sucking pigs which were then eight weeks old. One of them seemed to be weak behind. It sits down when eating, staggers around with its hind legs when walking and falls down once in a while when running. Has trouble getting out of the pig house, as its hind legs drag over a 2x4 about three inches from ground. This pig is doing fine and fatter and heavier than most pigs of three months age. They run on alfalfa, get soaked barley twice a day and ear corn once a day, and skim milk with shorts night and morning. Its legs shake and quiver on cold days and after it has stood up for some time. Thought may be you could tell me the trouble and remedy.—G. L. P. Washington county.

Your pigs may be suffering from rheumatism or paraylsis. They should be bedded down well at night where there are no drafts, and in fairly warm quarters. If this does not overcome the trouble, there is nothing you can do, as no remedy has been found for paralysis in hogs.—G. E. M.

Inflammation of the Udder

Ans. to E. B. L., El Paso county: The trouble with your cow is not milk fever, but more likely simply inflammation of the udder which often occurs at calving time and may cause a gargety condition after the cow has come fresh. Milk fever occurs after calving and one of the characteristic symptoms is that the cow lies, apparently unable to move, with her head turned around and her nose pointed towards her flank, the eyes having a glassy appearance. The swelling and pinkness of the udder which you mention quite often occurs in cows that are heavy milkers if they are fat at the time of calving. Men who make forced records on dairy cows are forced to watch this condition very closely because it is likely to occur in cows that have been fattened for high records.

You were wise to take away the corn from her, as corn is quite heating in character. In addition to green grass, you can give her bran and can feed it dry, inasmuch as the new grass in itself will be a laxative. As the cow comes near calving time, the udder will become quite distended and inflammation is likely to start on the lower surface of the bag, gradually extending upwards. The inflamed area will be very hard, and if this appears a few days before calving you probably will find it advisable to milk the cow before she calves in order to relieve this condition. We do not recommend milking in this way except when it appears absolutely necessary. Do not start grain feed after calving until the inflammation is pretty well gone. If, when the udder is milked out, it still shows a hard area, the best way to reduce this is by hot cloths applied frequently and by rubbing between times of applications of the hot cloths with a mixture of camphor and lard or camphor and cottonseed oil.

It should not be necessary to send the cow to Colorado Springs for constant care. If the inflammation seems very serious, however, you probably will find it advisable to have a veterinarian run out to see her and give you directions as to handling the case. Good dairymen aim to handle ordinary cases of inflammation of the udder at time of calving, but if you have not had experience with it, you should not risk losing one or more quarters of the cow's udder from the inflammation.—G. E. M.

Holland Wants Our Holsteins

The announcement that request for the shipment of 5,000 Holstein cattle to Holland was recently received in Washington occasions no surprise to men who have visioned the demands that will be made on our pedigree stock breeding establishments after the war. It is of significant interest, however, the only element of surprise being the fact that the inquiry comes at the present time. Men who look ahead have had no difficulty in discerning a foreign demand which will test to the limit the resources of our nurseries of breeding stocks. On that account the more has the warning been incessantly cried that valuable breeding stock should not be sacrificed. This insistence has been especially directed toward breeders of dairy stocks, who are quick to order their operations by the fluctuations of the market for milk. A degree of calf slaughter in dairy herds is imperatively demanded by all the laws of economical conduct of a business enterprise, but the conservation of the valuable female offspring has been clearly indicated since the outbreak of war. And this notwithstanding the temporary engorgement of the milk market.—Breeder's Gazette.

Europe Wants American Jerseys

Following are some items of interest developed at the last annual meeting of the American Jersey Cattle club:

A total of 44,887 Jerseys were registered in 1917. The number of transfers recorded was 35,884. The books of the club now show 36,117 breeders of Jerseys, which is the largest number of followers of any one dairy breed in America. The increase in registrations for the past year was 24 per cent, over the preceding year, which is an indication that Jersey breeders are increasing the size of their herds even in these strenuous times. There are now 721 members of the American Jersey Cattle club, and applications for membership are coming in at a rate of nearly 100 per year.

The board of directors were empowered to appoint a committee to supervise the sale of Jerseys to foreign commissions which are at present in this country, seeking to obtain stock for the replenishment of Europe's devastated herds following the termination of the war. Chief Rawl of the Department of Dairying in Washington reported that foreign commissions were already at work in this country, and he thought it would be advisable to take steps to insure nothing but the best stock leaving these shores for their work in war-torn countries.

Results of Register of Merit tests in the future will be given exclusively in terms of milk and butter-fat. It was deemed advisable not to estimate the amount of butter that could be made from a certain amount of butter-fat because of the varying percentage according to conditions. At the present time all but one of the dairy breed associations are now giving out results of tests exclusively in butter-fat.

Comment by Farmer Putnam

Continued From Page 9

cow. You kill her steer calves for beef, not her, and her heifer calves follow in the footsteps of their mother. She, the beef cow, gives fertility to the soil just as well as a dairy cow and furthermore she and all her calves consume a great deal of rough feed which your fancy dairy cow would not even look at, much less eat, and the beef cow and her offspring will be fine and slick on it, which is no small item in these high cost of food days.

The cows belonging to my partner and I have given us thirty calves in thirty days and we have more coming daily. Half of these are steers to help a hungry war ridden world a little later on. Don't you think our cows are doing their "BIT?"

You can eat a Jersey steer and I'll take a Hereford baby beef for mine and I'll bet any sammy would too. So here's a long life to the beautiful Herefords, the best rustiers and easiest keepers known.

Sincerely yours,
A COWGIRL.

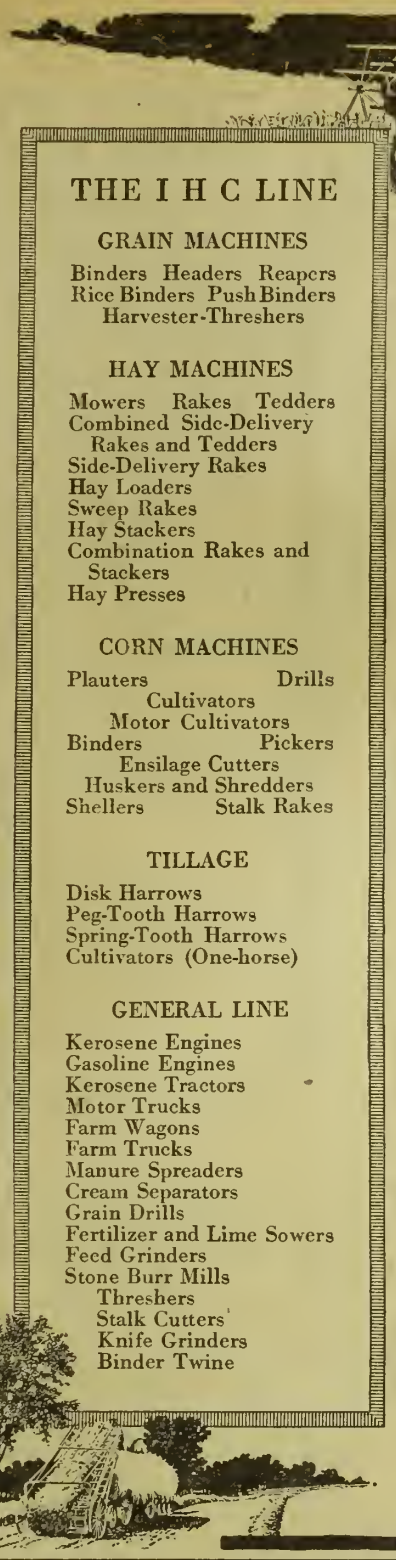
All right, lady, you're entitled to your comeback. I found out that I could say most anything about the farmers and never git a rise out of 'em, but when it comes to attackin' their cattle they git right up on their hind legs and holler.

THOMAS JEFFERSON PUTNAM.

J. O. D. Hereford Sale

The entire registered herd of Herefords on the J. O. D. Ranch at Aroya, Colo., is to be disposed of at private sale by the owner, Mr. D. Schilling, whose advertisement will be found in this issue. Labor shortage and the fact that Mr. Schilling's purebred hog business is expanding so rapidly, has caused him to decide to dispose of the cattle. This is one of the best herds in the west. No individuals will be sold; it is to be a sale of the whole herd and quick action is necessary to get it.

IHC Machines Best Substitutes For Scarce Hired Help



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Threshers
Stalk Cutters
Knife Grinders
Binder Twine

THE American farmer produces more per man than any other farmer in the world. Using labor-saving machines, he produces record crops with less hired help than is required under any other system. Therefore, in the present crisis, with help so scarce, every farmer should use the most efficient farm machines he can get, the only kind that can be depended upon to make the necessary increase in production.

The International Harvester Company of America markets the full line of high-grade machines listed in this advertisement for disking and harrowing seed beds; planting and cultivating crops of all kinds; cutting, making and storing hay; cutting, binding and threshing small grains; harvesting, husking and shelling corn; shredding corn fodder, filling silos, fertilizing fields; skimming cream; and grinding feed. It sells efficient farm power machines, engines and tractors operating on the cheapest fuels a farmer can buy. It provides wagons and motor trucks for all kinds of farm hauling.

Many of these machines have been used by American farmers for close to seventy-five years. They have helped to establish the standing of the American farmer. They are better today, more efficient and more economical than ever before. In many cases, one or another of these machines will solve the hired help and farm power problems on individual farms.

International machines are sold through ninety branch houses and over thirty thousand local dealers. Any customer can place an order, or command the services of this organization, by a telephone call to the dealer, or a visit to the nearest town.

It is important this year that all orders for machines be placed as early as possible, preferably months in advance. See the local dealer, or write us about the machines you are going to need this year, and do it now.

International Harvester Company of America
(Incorporated)
Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont.
Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah
San Francisco, Cal. Spokane, Wash.

CHAMPION DEERING McCORMICK MILWAUKEE OSBORNE

BUTLER CANNING OUTFITS PAY FOR THEMSELVES

Make this summer's garden and orchard provide next winter's living. Economize! Be Patriotic! Butler Canning Outfits are simple and practical. Much easier and quicker than old-fashioned methods. Sizes for Home, Club or Commercial use. Many were disappointed in not getting their outfits last year. Expect bigger demand this season. Be safe! Investigate Now. Write nearest factory for Free Illustrated Catalog and Prices. Good deal for live Agents in open territory.

BUTLER MANUFACTURING CO.
628 Butler Bldg., Kansas City, - Missouri. | 688 Sixth Ave. S. E. Minneapolis, - Minnesota.

The Universal Thresher

IF WE SEND YOU

or choice of 41 styles, colors and sizes in the famous Ranger line of bicycles for you to keep and use for a month as your own, then agree to show your bicycle to ten or more of your friends and tell them the ridiculously low factory price, easy terms, unusual conditions and exceptional offers I would make, all of which I will explain to you if within ten days of seeing this you will say so in a letter or on a postal, "Send particulars of Bicycle Offer" and address your postal card or letter:

Would You

Personal for G. L. LEWIS, Manager
MEAD CYCLE CO., 304 Mead Block, Chicago

The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

God reigns, and let the earth rejoice,
I bow before his sterner plan,
Dumb are the organs of my choice;
He speaks in battle's stormy voice,
His praise is in the wrath of man.

Yet surely as He lives, the day
of peace He promised shall be ours,
To fold the flags of war and lay,
Its sword and spear to rust away,
And sow its ghastly field with flowers.

—John Greenleaf Whittier.

Many Uses For Honey

We are learning with much satisfaction the uses of honey and those of us who have taken advantage of the suggestions given in Farmers' Bulletin No. 653, published by the United States Department of Agriculture, have been greatly aided in our efforts to save sugar and have found that we like the flavor of honey for sweetening. Following are some honey recipes: ,

Honey and Nut Bran Muffins

½ cup honey
¼ cup wheat flour
¾ cup corn flour
½ teaspoon soda
1 tablespoon melted butter
1½ cup milk
¾ cup walnuts (finely chopped)

Sift together, flour, soda and salt, and mix with bran. Add the other ingredients and bake for 25 or 30 minutes in a hot oven in gem pans. This will make about 20 muffins.

Honey Candy

¾ cup honey
¾ cup chopped nuts

Cook honey until it hardens when dropped in cold water. Let cool, stir in nuts and drop from spoon on oiled surface.

Things to Remember

You can remove rust stains from a white dress completely by soaking the dress in pie plant juice, secured by boiling the pie plant in a quantity of water. It makes the dress pink at first, but this comes out at the first washing and the stains will be effectually removed.

To remove odor of fish, put a teaspoon full of mustard in the dish in which fish has been cooked, partly fill with warm water and let stand a few minutes. Scrape and rince and no odor will remain.

Paste the following on the inside of your cook book cover.

3 teaspoons equals 1 tablespoon.
12 tablespoons (liquid) equals 1 cup.
16 tablespoons (dry) equals 1 cup.
2 cups equals 1 pint.
2 tablespoons butter equals 1 ounce.
4 tablespoons flour equals 1 ounce.
2 tablespoons granulated sugar equals 1 ounce.
2 tablespoons fluid equals 1 ounce.
Juice of one lemon equals 3 tablespoons.
4 cups of sifted flour equals 1 pound.
2 cups granulated sugar equals 1 pound.

Wheatless Combinations

Always ready to aid in food conservation under the direction of our states and National Food administration, we shall use in these columns as much of the material received from our colleges and government bulletins and leaflets as space will permit; and we hope our readers will write us for any additional information and make use of all agencies, and if the editor of these columns has not made it plain as to where and how these helps may be obtained, please send her a personal letter NOW.

The following have been found successful in Colorado and neighboring localities, and will be welcomed by our loyal housewives, who have taken the wheatless-till-harvest pledge, thus showing how the fighting spirit of America is rising to meet the wheat emergency.

.Combination Muffins Using No Wheat.

Method of Mixing:

Add to the cup of milk, the melted fat, syrup and slightly beaten egg; sift the salt, baking powder and flour together. Use a coarse sieve so that no part of the flour is wasted. Combine the two mixtures, stirring lightly without beating. Bake in a hot oven for 20 to 30 minutes depending upon the size of the muffins.

These recipes make 24 small muffins (3 of which make a 2 oz. serving) or 8 very large muffins.

The ground rolled oats are the same as rolled oats ground in a food chopper. When using oats, mix them with the other sifted dry ingredients.

When cornmeal is used—mix—do not sift the ingredients.

Suggestions:

The wheat substitute recipes given below show that a wide variety of combinations is possible even when limited to the use of a few substitutes.

All of the combinations are good. In nearly all cases a combination of substitutes makes a better product than the use of only one substitute.

Muffins containing oats have a particularly pleasant flavor.

Other substitutes used with buckwheat will modify the color and improve the flavor of the product. The use of molasses will also do this.

1. Combination Substitute Muffins

Barley 50%. Oats 50%.

1 cup liquid
1 tablespoon fat
2 tablespoons syrup
2 eggs
4 teaspoons baking powder
1 teaspoon salt
1½ cups barley flour (4 oz.)
¾ cup ground rolled oats (4 oz.)

2. Combination Substitute Muffins

Barley 75%. Oats 25%.

1 cup liquid
1 tablespoon fat
2 tablespoons syrup
2 eggs
4 teaspoons baking powder
1 teaspoon salt
2⅓ cups barley (6 oz.)
⅓ cup ground rolled oats (2 oz.)

3. Combination Substitute Muffins

Buckwheat 50%. Oats 50%

1 cup liquid
1 tablespoon fat
2 tablespoons syrup
2 eggs
4 teaspoons baking powder
1 teaspoon salt
1 cup buckwheat (4 oz.)
¾ cup oats (ground), (4 oz.)

4. Combination Substitute Muffins

Buckwheat 75%. Oats 25%.

1 cup liquid
1 tablespoon fat
2 tablespoons syrup
2 eggs
4 teaspoons baking powder
1 teaspoon salt
1¼ cups buckwheat (6 oz.)
⅓ cup ground oats (2 oz.)

5. Combination Substitute Muffins

Buckwheat 50%. Corn 50%.

1 cup liquid
1 tablespoon fat
2 tablespoons syrup
2 eggs
4 teaspoons baking powder
1 teaspoon salt
1 cup buckwheat (4 oz.)
1 cup cornflour (4oz.)

6. Combination Substitute Muffins

Barley 75%. Corn 25%

1 cup liquid
1 tablespoon fat
2 tablespoons syrup
2 eggs
4 teaspoons baking powder
1 teaspoon salt
2⅓ cups barley flour (6 oz.)
½ cup corn flour (2 oz.)

7. Combination Substitute Muffins

Ground Rolled Oats 50%. Corn flour 50%.

1 cup liquid
1 tablespoon fat
2 tablespoons syrup
2 eggs
4 teaspoons baking powder
1 teaspoon salt
¼ cup ground rolled oats (4 oz.)
1 cup corn flour (4 oz.)

8. Combination Substitute Muffins

Oatmeal 25%. Corn flour 75%.

1 cup liquid
1 tablespoon fat
2 tablespoons syrup
2 eggs
4 teaspoons baking powder
1 teaspoon salt
¼ cup oatmeal (ground), (2 oz.)
1⅔ cups corn flour (6 oz.)

Have You

Asked your County Agent or the Director of Extension Service at the Agricultural College for the Cottage Cheese demonstrations? Mrs. Coffin, special demonstration agent, for this work is now in the field and you should have the benefit of her splendid work.

Opened your school building for community work during the vacation?

Organized your Parent Teacher Association and the Junior Red Cross?

Help the Red Cross

When house cleaning, one of the hardest things for many of us to do is to harden our hearts sufficiently to throw away, give away, or destroy the articles which we feel we may sometime use, but which, in the meantime serve only to clutter our rooms, closets or drawers, and make us nervous or irritable caring for them. What a satisfaction it should be at this time to feel that by giving rather than hoarding, we may not only add our little to help those in such dire need, but at the same time give our selves more freedom from the burdens of the unnecessary care of things we may never need. Space is often more valuable than what we work so hard to put into it.

Many nervous, irritable, dissatisfied, unhappy women would become calm and contented if they would rid themselves of about one-half of their belongings, and our home would become more restful, harmonious and comfortable in which the daily work could be done quietly, thoroly and systematically.

Let us learn to give of ourselves, knowing that nothing that is good will be lost—but that our lives will be made richer in proportion as we share with others.

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent by express prepaid for $1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

DELCO-LIGHT

Increases Farm Efficiency

Fifty thousand Delco-Light plants in operation on American farms are saving, at the most conservative estimate, an hour a day each—or over 18,000,000 work hours a year.

That is equal to an army of 60,000 men working ten hours a day for a full month.

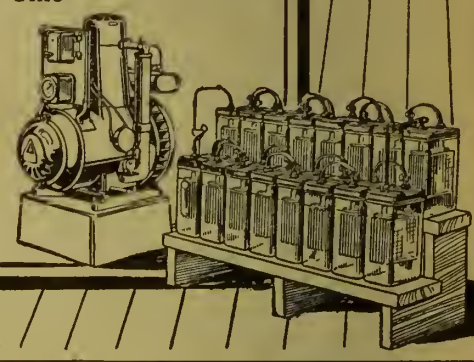
Delco-Light is a complete electric light and power plant for farms and suburban homes.

It furnishes an abundance of clean, safe, economical light, and operates pump, churn, cream separator, washing machine and other appliances.

Ask us to show you how Delco-Light can save time and money on your farm

The Domestic Engineering Company
Dayton, Ohio

Barnett Ranch Lighting & Appliance Co.
1525 Sixteenth Street
DENVER, COLO.



SELF CRANKING
AIR COOLED
THICK PLATE
LONG-LIVED
BATTERY
BALL BEARINGS
NO BELTS
USES
KEROSENE

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

Blouse 2427. Skirt 2442—Blouse is cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt is cut in sizes 22, 24, 26, 30, 32 and 34 inches waist measure. Linen or shantung would be nice for this costume with contrasting material for collar, cuffs, belt and pocket trimming. This illustration calls for two patterns at 15c each.

2428—Attractive and Seasonable Model. Cut in sizes 34, 36, 38, 40, 42 and 44 inches bust measure. Requires 5½ yards 40-inch material for size 38. This is smart for the new foulards, voiles and pretty ginghams. Lawn and batiste also, are desirable. The skirt may be finished with or without tucks, and the sleeve in wrist or elbow length.

2437—Just the Dress for Your Growing Girl. Cut in sizes 6, 8, 10, 12 and 14 years. Requires 3¼ yards 44-inch material for size 8. Here is comfort, good taste and good style. The model is nice for the new, pretty voiles, for dimity, tafeta, silk, batiste and dotted Swiss. The surplus effect on the waist is very pleasing. You may finish the dress with a belt over the back or with a smart sash of ribbon, silk or material.

2186—Some New Things for the Baby. Set consists of Cap, Sack, Nightgown and Dress. Muslin, cambric, flannel or flannelette will do nicely for the night gown, while lawn or nainsook is suitable for the dress, with embroidery, tucking and lace or edging for decoration. The sack will look well in silk, cashmere, flannel, or flannelette, and the cap is suitable for lawn, silk or "all-over" embroidery. For the dress or flouncing, it will require 1¾ yards of 36-inch material with 1¼ yards of plain material for yoke and sleeves. Of nainsook or lawn 36 inches wide it will require 2¼ yards. The gown will require 2½ yards of 24 or 27-inch material. The cap, ½ yard of 18-inch material. The sack requires ⅞ yard of 27-inch material.

Rural Motor Express Lines

The Council of National Defense authorizes the following statement:

After thoro investigation the highways transport committee of the Council of National Defense has urged upon the state Councils of Defense the promotion of rural motor express lines to connect the farms with the cities, thus expediting the production of foodstuffs. The plan is to use the return-loads system, by which farmers can ship into the city all vegetables of farm products such as milk, dairy products, calves, hay, grains, and particularly perishable products, and receive in return from the city farm implement parts, seed, fertilizers, and other supplies.

The supplies which the farmer needs from the city can be ordered by the farmer in the morning over the phone and delivered at his gate the same afternoon. These rural expresses have already been started in many localities and have proved their value by promoting an increase in food production. In many farm communities where the express is in operation the farmers state that any interruption of the service would immediately result in reduced production.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

I wonder how many W. F. L. readers are up with their work. Is the season's crop of chix hatched? One thing that makes poultry work interesting and ever new is the variety it affords, the absence of monotony because of the new developments each month and week and day. This state can only obtain, however, when we keep up to the minute. When we get behind, when we allow the hatching season to extend over several months of time, until the work becomes so monotonous and wearisome that we neglect the baby chix, then work with poultry loses its charm and freshness.

The government has asked for 100 eggs per hen, per year; late hatching will not help to attain this end. Some May chix may lay early enough next fall to come thru with the hundred eggs, but the most of them will not. The fact that the hens will not set is no excuse for late hatching; history repeats itself; hens have aways set or not set at the wrong time, and rather than try to change the usual order of things we had better consider more tractable means of incubation. Two or three hatches in a machine will usually give us a season's chix; we have only the two or three broods to look after, two or three sizes of chix on the place. The money made on next winters' eggs, laid because of early hatching, will pay for the incubator.

But the fact remains that most of us are behind with hatching and that we are more anxious than ever to get those winter eggs. Culling will help; disposing of the weaklings whenever they make themselves known; selling every cockerel not wanted for eating later or for canning; giving extra room and better care to the bright, active pullets. It is wonderful how much time can be made by a little earnestness along this line. Pullets given ALL the room, ALL the care, will mature a month earlier than those running with a large flock of all sizes and ages, and half cared for. December, possibly November, will see a good May pullet laying; the result is up to us.

For the first time in our twenty years we will have no hen hatched chix. Our pullets began laying early in November last year, laid fine all winter, but not one would set when we were ready, and our chix all have the wooden mother. About the middle of April the hens began setting but we are breaking them up. It may be that early hatching followed by early laying, makes for early broody hens, but we have not found it so with our hens. We have had them laying all winter repeatedly and always the same trouble about setting. We believe the incubator and brooder more than pay for their cost in added profit and also in lightening the work.

Why Colorado Wool Shows Poor Rating on Market

Continued From Page 3

the system of breeding outlined will be the best thing for the Colorado sheep breeders. One other thing is certain. A shipment of Australian wool was sold in Boston recently at public auction for over $1.00 a pound. About a week previous Southern Colorado wool sold for 50 cents a pound. For each thousand head of sheep, shearing 8 pounds per head, the difference would be $4,000. Why could not the Australian wool or its equivalent, have been produced in Colorado? Possibly the more open fleeced sheep cannot be handled so well on the Colorado range, yet wool at a dollar a pound seems worth trying for.

Wyoming Shows Increase

The first year of the shearing sheds in Wyoming, a certain sheep owner was disputing with Prof. Ritch over the benefits of the new methods of breeding. He had about 300 very good halfbred ewes along with a much larger number of ordinary range sheep. A trial shipment was made of a small amount of each kind of wool. When the returns came in the halfbred wool was priced at 32½ cents a pound, the other was priced at 16 cents. One of the indirect results of this test is the aforementioned increase of 2 pounds of wool per sheep in certain Wyoming flocks. They are working for an average fleece of 10 pounds in these same flocks. The Colorado average is 6½ pounds. Three pounds and a half extra wool means about $2 extra pocket money per head at present prices. It must be admitted that the Corriedale wool from the principal flock in America did not sell well last year, in comparison with good range wool from the same section of country. For one reason the Corriedale wool was contracted for in early spring, while the price was uncertain; the other was sold later in the fall on a sounder market. Working under war conditions we are not always certain of the market. One thing, however, is sure: Colorado can produce a better class of wool, and more wool per sheep.

We are not yet where we can absolutely recommend the Australian breeding method as the one system above all others for Colorado. But a system that has proved most successful in the greatest wool producing country of the world is worth trying. When it has been tested under Colorado conditions we will know more definitely.

If it is necessary to stay with the tight fleeced fine wool sheep a strong effort should be made to work toward the smoother types, shearing lighter shrinking wools of longer fiber. An accompanying illustration shows a typical Wanganella (Australian) Merino, some good specimens of which have recently been imported by King Brothers of Laramie, Wyo.

In 1917 America used about 652,000,000 pounds of wool, of which only 288 million pounds were produced at home. This entire amount would be used up in clothing and equipping an army of 2,000,000 men. Shipments from the United Kingdom, Australia and Russia have been largely cut down on account of the war. There are two ways open to us to increase our domestic wool production; to increase the number of sheep on the small farms of the country, and to increase the yield of wool per sheep.

Topping Beets by Machine

Continued From Page 2

that the beets will be gotten out in good season and under far more favorable conditions and it will mean a saving in many ways.

"There are about 150,000 acres devoted to beets in their region. The beet harvester will effect a saving of about $10 per acre upon beets that yield fifteen tons per acre, and this indicates a saving on the harvesting alone in this region of approximately $1,500,000 each year. This saving will come directly to the growers, and there will also be a saving to the sugar factories because the beets will reach the beet dumps at the factory in so much better condition.

"The saving thru a more economical use of the tops and crowns, when put into a silo and properly fed probably will be four times as great as is the direct saving in the harvesting. The feeders who have practiced gathering the tops and crowns and putting them while yet fresh into a silo show that there is a feeding value in the tops in each acre of beets that yields fifteen tons, that amounts to $45 or $50 per acre, whereas under present wasteful methods of feeding the tops they are valued at $4 to $6 per acre. I feel that the harvester is a demonstrated success and with its further development it means the greatest era of progress for the beet crop that has ever happened."—J. W. Jones, U. S. Dept. of Agriculture in the Magazine Sugar.

SELL YOUR MILK AND RAISE YOUR CALF ON A & C CALF MEAL

FOR ONE-THIRD WHAT THE MILK WILL SELL FOR

Contains all necessary food elements to fatten calves quickly, and keeps them in good condition. If your feed dealer cannot supply you, we will ship you direct for trial in lots of one hundred pounds or more with a guarantee that if your feeding test does not prove every claim we make to let you return what you have not used and pay what you think is fair. Manufactured and guaranteed by

ADY & CROWE MERCANTILE CO. 1900 15th Street Denver, Colorado

Denver The Live Stock Market

Denver is the Highest Market **Most of the Time** and the Best Market **All the Time** for Western Cattle and Sheep.

Time and again cattle have sold on the Denver market for higher prices than the same cattle would bring same days at the Missouri River.

Why don't you market your cattle and sheep at Denver, where they will bring you greatest net returns?

When to Cut Alfalfa

Keep your eye on the little shoots; never mind the blossoms. Cut alfalfa when the new shoots at the crown of the plant are about two inches high.

Get down on the ground on your knees in your alfalfa field. Separate the stems of the alfalfa at the crown—examine closely. If you see little shoots or sprouts, starting from the crown of the plants at the base of the stems, and from the stems themselves. you will know that this is the new crop coming on; that your alfalfa is mature and ready to cut. Get out the mower and cut it, no matter what the weather. These little shoots will be small—an inch or two long, but they will grow very rapidly. In three or four days they will be several inches long.

If you put off cutting, these shoots will be caught by the mower the tops will be clipped off, and, while you may not realize it at the time, later you will find out that you have cut two crops of alfalfa and got but one.

The result is that the new crop which you have set back by cutting will have to make a new start, and in the meantime, weeds will spring up and choke out the alfalfa; and the sun will beat down and take the moisture from the ground. Do not forget this—lateness in cutting injures alfalfa and frequently kills it.

Cutting too early is also bad. When alfalfa is cut too early it often becomes rusted, yellow, sickly, and weeds and grass spring up and choke it. Thousands of ruined fields trace their injury to having been cut at the wrong time. When it is mown off too soon all seems to go wrong with it. It may be that in some way the sap sours the roots and the bacteria die.—Agricultural Dept. International Harvester Co.

Must Have Wheat Storage

Idaho in general, and southern Idaho in particular, has immensely increased the wheat acreage over last year. In some of the southern counties the acreage has been more than doubled. Storage facilities were overtaxed in many places last year; what they will be this year remains to be seen. There is not much question, however, but that the situation will be serious unless immediate and adequate preparations are made to handle the increased wheat yield.

Matters are complicated by an impending shortage in burlap sacks. A government agent reports that we are at present short 8,000,000 bags. There is no assurance that these will be supplied. The shortage is not due to lack of material in the Orient but to lack of ships to bring it here. It thus appears that we are not only going to produce a record crop of wheat but are going to have less than our usual number of sacks with which to handle it.

The fixed wheat price set by the government will influence the demand for storage facilities at all points. Farmers are not going to hold wheat several months when they know the price will remain the same. The tendency will be to market every available bushel at the first opportunity.

It seems safe to predict that elevators and warehouses will be unable to handle the wheat as fast as it comes to them next fall. The only other alternative is for farmers to store their wheat, at least for a time. The kind of storage provided for does not matter, just so it is provided in plenty of time for use of the 1918 crop.

Farmers expecting to build bins, granaries or elevators should begin to plan now. There are so many types: wood, steel, permanent or temporary. Select the one best adapted to your own particular needs. Talk to your county agricultural agent.—R. J. Leth, Idaho State Seed Commissioner.

A Trip With the County Agent

A trip with Mr. W. F. Droge, our new county agent for Otero county has resulted in the prospective organization of county work thru the old Otero County Agricultural Club, whose well remembered exhibit at fairs in Colorado, the Pacific Coast and Eastern states, has so well advertised the state. The working together of different interests of the Arkansas valley irrigation farmers will be equalled in importance by the assistance and advice of the county agent, to the people of the large, promising dry land and poorly irrigated high ground between here and New Mexico.

The thrifty appearance of the town of Timpas, on a southern branch of the Santa Fe, the ship shape condition of farm buildings, pastures and fences, of surrounding county, together with the interest in dairy cattle, and the Liberty Loan was a surprise. A quota of $3,200 with a raise of $8,000 in Liberty Loan investment puts Timpas on the map as a record breaker.

The various interests of an irrigated valley will surely put our new agent to the test, especially if the farmers show a tendency to "let George do it," instead of using him as an organizer and intermediary between the farmer, the state and the government in an attempt to regulate supply and distribution.

A big reduction in the price of milk at the condensery has brought many old customers back to the local creamery, with renewed interest in the advantage of feeding the milk to the betterment of their dairy herds. Scarcity of bottom pasture has forced in the fact that with good cows, even interest on high priced lands can be paid, as has been proven in dairy sections of Holland where $2,000 land is used for nothing else. Weed, breed and feed is our motto.—B. S. Paddock, Rocky Ford.

If you believe in peace you will fight to get it.

Farmers' and Stockmens' Exchange

Advertisements will be inserted in this department for 5c per word; four or more insertions, 4c a word each insertion. Remittances can be made by postoffice money order or personal check. Advertisements are set in uniform style, no display type or illustrations admitted under any circumstances. Every figure and initial counts as one word. Guaranteed circulation over 50,000 copies each issue. WESTERN FARM LIFE is issued semi-monthly the first and fifteenth of each month. Advertising copy for this department must reach us ten days before date of issue. It carries the most classified advertising because it gives you best results. Send us in a trial advertisement. Write for proof showing how these columns pay advertisers.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

LEGHORNS

S. C. BUFF LEGHORNS, HEASLEY'S EGG basket strain. Mrs. J. W. Kyffin, Fowler, Colorado.

SINGLE COMB WHITE LEGHORN EGGS, $5 per 100. Barron strain. Satisfaction guaranteed. Frank C. Sutton, Inavale, Nebr.

EGGS FROM LARGE SINGLE COMB WHITE Leghorns on free range, laying breed, $6.00 per 100. Alvin Westwood, Waco, Neb.

FANCY SINGLE COMB BROWN LEGHORN eggs from heavy-laying strain, $6 per 100. L. M. Lillibridge, R. F. D. 5, Carthage, Mo.

PLYMOUTH ROCKS

RINGLET BARRED ROCK EGGS, $1.00 PER 15; $5.00 per 100. Chas Millsap, Goltner, Neb.

BARRED ROCKS, EXTRA FINE MATED FLOCK. 50 eggs, $2.75; 100 eggs, $5.00. Safe delivery guaranteed. B. F. Johnson, Fairfield, Neb.

BARRED PLYMOUTH ROCKS — EGGS FOR hatching from four selected pens, both matings and range flock. Incubator eggs, $5.00 per 100. Send for mailing list. Chester Blunt, Route 1, Greeley, Colo.

WORLD'S EGG RECORD—WHITE ROCKS that hold the world's record, at North American contest, for all Rocks of 1,072 eggs, and the world's best average for Rocks for two years, which totaled 2,034 eggs, or 203½ eggs per year for each of ten hens. Eggs from sisters and cousins of above at 25 cents each. Kendrick Pheasantries, 241 Coronado bldg., Denver, Colo. Send for price list of pheasant eggs.

ORPINGTONS

S. C. WHITE ORPINGTON EGGS $2.00 FOR 15; $6.00 per 100. Mrs. R. Rosenberger, Sterling, Colo.

S. C. BUFF ORPINGTONS—TRAPNESTED layers, prize winners at leading Colorado shows. Eggs for hatching. Circular free. F. M. Shank, Route No 2. La Junta, Colo

WYANDOTTES

WHITE WYANDOTTES $1 TO $5. SETTING, $6.00 per 100. Jess Schibler, Minneapolis, Kans.

EXPRESS PREPAID ON HIGHEST QUALITY White Wyandotte eggs. E. H. Kissinger, Fairfield, Neb.

PUREBRED GOLDEN WYANDOTTE EGGS, per setting $1.50 and $2.00; for incubator pen 2 and 3, $6 per 100. Mrs. Ella Beyl, Nevada, Mo.

RHODE ISLAND REDS

"RED-CLOUD" R. I. REDS. R. C. SETTING eggs—S. C. E. O. Swedberg, Denver, Colo.

ROSE COMB R. I. REDS. DARK BRILLIANT. Eggs for hatching. F. B. Morger, Route 1, Fowler, Colo.

PURE BLOOD R. C. RED EGGS, 15 FOR $1.25, 50 for $3.50, 100 for $6.00, prepaid. James A. Harris, Latham, Kan.

ROSE COMB RHODE ISLAND RED COCKerels, extra quality, eggs $1.50 setting. Claude Musselman, Lyons, Neb.

HALL'S S.C. REDS AND WHITE ROCKS. Big stock show winners. Eggs for hatching, reasonable. Liston L. Hall, Gering, Neb.

ROSE COMB REDS, WINNING, LAYING strain. Eggs, baby chicks, breeding stock. Write your wants. E. A. Miller, Alma, Nebr.

FANCY ROSE COMB RED CHICKS. DEEP red, from Hoganized hens. The kind that live, lay and pay. $25.00 per hundred. Live delivery. We ship. J. Smith, 6139 W 38th ave., Wheatridge, Colo.

SEVEN GRAND PENS ROSE COMB REDS, headed by roosters costing $15.00 to $50.00. 15 eggs $3.00; 30 eggs $5.00; 50 eggs $8.00. Special utility eggs $7.50 per 100. Baby chicks. Catalog. W. R. Huston, Americus, Kan.

ANCONAS

ANCONAS—THE MORTGAGE LIFTER EGGS, cheap. W. Mustain, Bolivar. Mo.

PURE SHEPPARD S. C. ANCONAS, MADISON winner and Queen Bess stock. Eggs, choice, $8.00 and $10.00 per setting. Utility, $8.00 per hundred. Chicks 25 and 80c. Order early. Lottie De Forest, Peabody, Kans.

MY ANCONA DOPE TELLS WHY I QUIT ALL other breeds. Ancona breeders got eggs all winter. Did you? Why keep loafers? Breed Anconas. 16 eggs for $2.00; 100 eggs for $8.00, prepaid. Page's Poultry Farm, Salina, Kans.

BRAHMAS

LIGHT BRAHMA EGGS; 15 for $1.25. FREE paid. Geo Gunther, Rt. No. 1, O'Neal, Ark.

DUCKS

ROUEN DUCK EGGS, $1.50 PER SETTING. James Cassell, Fremont, Neb.

LARGE MUSCOVY (DRY-LAND) DUCK EGGS $1 per setting. Hugo Glitzke, Tonganoxie, Kan.

FAWN AND WHITE INDIAN RUNNER DUCK eggs $1.00 per 13. $3.00 per 50. Mrs. Baker, Box 21, Arvada, Colo.

TURKEYS

MAMMOTH BRONZE TURKEY EGGS, $5 PER 12, postpaid. Paul Brecheisen, Box 52, Rt. No. 3, Baldwin, Kans.

EGGS

PHEASANT EGGS—RINGNECK, PER DOZEN, $3.50; two dozen, $6.25. Golden, per dozen, $6. Mrs. Iver Christenson, Jamestown, Kas.

EGGS, BLUE ANDALUSIANS, BLUE ORpingtons, Buff Leghorns, Buff Ducks, Bourbon Red Turkeys. Circular, John A. Huber, La Crosse, Kans.

EGGS, EGGS FOR THE MONTH OF JUNE, 15 for $1.00. Order from this ad. I have the following: Barred, Buff and White Rocks, Games, Houdans, R. I. Reds, Hamburgs, Leghorns, Buff and White Orpingtons, Wyandottes, Minorcas, Langshans, Pearl and White Guineas, 7 kinds of Ducks. Also dogs, fancy pigeons, hares, rabbits. Write wants. D. L. Bruen, Platte Center, Neb.

WILL SEND POSTPAID THE FOLLOWING varieties of purebred eggs for hatching at $6.00 per 100, all one kind or assorted to suit, $2.00 per 30; 80 per cent fertility guaranteed. Barred Rock, White Rock, White Wyandotte, White Orpington, Buff Orpington, Rose Comb Rhode Island Red, Single Comb Rhode Island Red, White Leghorn, Brown Leghorn, Buff Leghorn. George Cloon, Le Loup, Kans.

BABY CHICKS

BABY CHICKS THAT LIVE. THE REAL Rhode Island Reds and Brown Leghorns. Price, 18c apiece or $16.00 per hundred. Will sell a few dozen of my "Lay More" strain of Barred Rocks from the same strain that won the blue ribbon at the Denver Stock Show at 30c apiece. J. R. Anderson, Ft. Morgan, Colo.

COLUMBIA HATCHERY. ESTABLISHED 1911, capacity 6,000 weekly. All leading varieties of baby chicks: Reds, Rocks, Leghorns, Orpingtons, Wyandottes, etc. Write for price list and full particulars. Live delivery guaranteed to your express office, and can ship most varieties within 7 days. Blue Andalusian hatching eggs $2.00 per 15. 3437 W. 44th ave., Denver, Colo.

PET STOCK

THOROBRED SCOTCH COLLIE PUPPIES FOR sale. E. L. Martin, Thatcher, Colo.

WEANLINGS, 5 DOES, 1 BUCK, BELGIAN hares, $8.00. Good Stock, will ship. Mountview Rabbitry, 102 S. Newton, Denver, Colo.

COLLIE DOGS, ALL AGES, MATRONS BRED and open stud dogs and puppies. Frank Davis and Sons, Holbrook, Nebr.

NURSERY STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

MILLIONS STRONG HARDY PLANTS—LEADing varieties Bermuda Onions and cabbage, postpaid, 100 for 35c, 1,000 for $2.00. Sweet potatoes, tomatoes, peppers, 100 for 75c, 1,000 for $4.00. Not prepaid, 5,000 to 10,000, $3.75 per 1,000. Careful pack and safe delivery. Price list "War Garden Collection Offer," "How to Grow a War Garden" sent free. Liberty Plant Company, 319 Frost Bldg., San Antonio, Texas.

1,000 ONION SETS FOR $1.00, PREPAID—Special Colorado Hazel size sets. Every set makes an onion. Good for green onions and very best for growing matured onions for winter use. (East of Mississippi river, $1.25.) Ask for catalog. J. D. Long, Boulder, Colo.

SEEDS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

WHITE DENT SEED CORN FOR SALE. CHAS. T. Lewis, Keota, Colo.

SUDAN SEED 16c PER POUND. IT'S GUARanteed. M. H. Loy, Milo, Kan.

DWARF KAFIR SEED, 85 GERMINATION, $3.00 per bushel. Oscar Wilcox, Larned, Kans.

SUDAN SEED — RECLEANED, WELL MAtured, 17½c lb. sack free. C. E. Dieffenbaugh, Talmage, Kas.

WHITE SEED CORN, $3.00 BUSHEL. BLACK Amber cane, $4.25 bushel. E. H. Copenhaver Abbyville, Kans.

RECLEANED RED AND BLACK AMBER CANE seed, $6.50 per hundred pounds. Claude Paddock, Oberlin, Kan.

CHOICE CANE SEED, $2.50 BUSHEL; FANCY Feterita $5.50 per 100. Will ship anywhere. Sacks extra. Farmers' Union, Oronoque, Kan.

FETERITA, $5.50 PER CWT., CANE, SUMAC, Black Amber, $9.50 per cwt.; Sudan grass. $22.50 per cwt. Germination 87 per cent. Delphos Poultry & Seed House, Delphos, Kans.

FOR SALE—LARGE NAVY BEANS; STRICTLY handpicked. Extra fancy seed or for cooking: 15c per pound, sacks extra. Plant an acre for Uncle Sam. H. Dierks, Jr., Minatare, Neb.

SUDAN SEED—I AM CLOSING OUT MY SEED cheap. Write me for prices. I grow them myself and know they are pure. No Johnson grass. You can't afford to plant seeds that are not the very best. Ellis Goffinet, Rt. 2, Lubbock, Texas.

HELP WANTED

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

AGENTS—SOMETHING NEW IN PORTRAITS and patriotic pictures. Big proposition. Write for catalog. Southern Art Co., Oak Park, Ill.

STATE DEALERS TO HANDLE THE WONDERful Non-Kick Device for Ford cars. No more sprained wrists or broken arms, cranking accidents eliminated. Price $4.00 each, attached in 10 minutes. Sells in every town. If there is no dealer in your town or county send $2.00 for sample or $24.00 for one dozen. The Non-Kick Device is the greatest money getter on the Ford accessory list. Every customer a satisfied one. Write for territory. Non-Kick Sales Co., 2101 Walnut, Kansas City, Mo.

LUMBER

LUMBER, LATH, MILL WORK. GET OUR direct-to-consumer prices before building. Catalog, plan book free. Contractors Lumber Supply Co., 443 Lumber Exchange, Seattle, Wash.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

FREE—SEND NAMES OF FIVE KODAK OWNers, with first order, and get a beautiful five by seven enlargement from your favorite film. Developing 10c, prints 3c up. Foto Art Co., Dept. N. Norfolk, Neb.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—20 HEAD OF SPRINGING, HIGH grade Holstein cows. Wilson Counts, Hasty, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Held, Sterling, Colo.

FOR SALE—15-16 GRADE HOLSTEIN HEIFER calves from best breeding, $30, express prepaid. Herbert Taft, Whitewater, Wis.

FOR SALE—THIRTY-SIX HEAD HIGH GRADE Holstein cows and heifers. Will sell entire herd, also three unit milking machines. Lone Star Dairy, Mulvane, Kans.

FOR SALE—85 HEAD DEHORNED MIXED red and white faced yearlings. 60 head 3 and 4 year old dehorned cows; springers and calves by side. Ernest Pankake, Deertrail, Colo.

REGISTERED ANGUS BULLS FOR SALE—One carload coming 2-year-old; good back and lines; low down and blocky type; lots of bone; in good condition.—W. H. Pike & Son, Plano, Ia.

FOR SALE—WE HAVE 6 REGISTERED HEREford bull calves, Anxiety breeding, born August-September, 1917. The good, heavy boned kind, price $125.00. Also four coming two-year-old bulls, same breeding, price $200.00. J. O. D. Ranch, Aroyo, Colo., on U. P. R. R.

JACKS

FOR SALE—AN EXTRA GOOD HEAVY BONED registered Jack, seven years old. Price, $600.00. J. O. D. Ranch, Aroya, Colo., on U. P. R. R.

HOGS

HAMPSHIRE BRED GILTS—CHOICE STOCK. Reasonable price. L. F. Newbold, Minden, Neb.

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC JERSEY HOGS—THE BIG BONED, large, prolific type. Young pigs by the Senior Champion boar at the last Denver Show, Orion Cherry King 15th. Did you see our grand champion barrow that sold at 50c per pound? J. O. D. Ranch, Aroya, Colo.

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

GOVERNMENT LANDS—CALIFORNIA, OREgon. Booklet-stamps. Joseph Clark, Sacramento, California.

I WANT TO HEAR FROM OWNER OF GOOD ranch or unimproved land for sale. Mrs. W. Booth, Pulaski, Ia.

DENVER RESIDENCE AND INCOME PROPerty to exchange for land N. H. Griffith & Co., 301 Boston bldg., Denver, Colo.

320-ACRE RELINQUISHMENT, FINEST SAGE brush land, 15 miles north of Pueblo, 4½ miles of railroad, plenty rainfall, raise anything, great cattle proposition, house, barn, fence, $10 per acre and worth the money, will trade. A. R. Reynolds, Wigwam, Colo.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

MONEY TO LOAN ON DRY LAND FARMS and stock ranches. Write Shanholtzer, Brush, Colo.

FOR SALE—SEVERAL THOUSAND SECOND hand bale ties, nearly full length. At 1226 Wazee st., Denver, I. E. Newton.

THREE NEW ½-TON TRUCKS, ELECTRIC starters, lights, etc.; can be bought below cost. See them. 2014 Champa St., Denver.

NEW 2-BOTTOM TRACTOR PLOW; CAN BE made 3-bottom; cheap. 539 Marion st., Denver, Colo.

PARTS AND MOTORS OF ALL KINDS SUITable for tractors, at junk prices. Auto Wrecking & Metal Co., 834 Broadway, Denver.

CLEAN YOUR ALFALFA—POCKET GOPHER Trap. Send me $3 for one-half dozen. Guaranteed or money refunded. Success Gopher Trap Co., Harlan, Iowa.

WANT RANCH IN TRADE FOR HOTEL. COMpletely furnished, good mining town, high school, county seat. Georgetown, Colo., Box 26.

North Park Hereford Sale

Another good chance to pick up choice registered Herefords comes June 11 and 12 at Walden, Colo., in North Park, where J. H. Dickens will offer 300 head on the dates named, 200 cows and 100 bulls. More than half the cows will have calves at side. These cows are, for the most part, Disturber and Fulfiller breeding, and the calves are sired by Maples Lad 34th, (by Bonnie Brae 8th,) Repeater 29th, (by Repeater,) Aaron Mischief, (by Beau Mischief,) and Parsifal Mildred, (by Parsifal.) It is announced that these fine herd bulls also will be put in the sale. This is the third annual sale scheduled by the Hereford Ranch of Walden and it promises to be by far the biggest and best. Farmers desiring purebred Herefords of exceptional merit should not miss this sale.

Codling Moth Control

A circular which should be of much interest to apple growers has just been issued by the Utah Agricultural Experiment Station. In past years the Experiment station has done considerable work on the codling moth from which Professor Hagan, the author of this circular, has summarized the essential information for controlling the pest.

The first spray should be applied three to five days after the petals begin to fall, with the sole object of filling each calyx cup with the poison, for it is here that the worm which does the damage enters the apple. This should be followed ten days later by a second spraying. This will complete filling the calyx cups that are not open as early as the first spraying. The spray recommended by Professor Hagan is "arsenate of lead—about three pounds of paste or one and one-half pounds of powder to 50 gallons of water." Since the blossoms usually point outward, the spray should be driven down from the top, in from the side, and up from the bottom.

If the spraying has been done properly an examination somewhat later in the season should not show more than ten per cent wormy apples. If more than ten per cent are found wormy, a second spraying should be applied about the first of August.

The trees should be banded about the first of July, which is about the time that the larvae begin coming down from the tree. The band provides a hiding place for the larvae, under which they crawl and remain. The bands should be removed about every eight days and the worms killed.

A free copy of the circular giving more detailed information on the subject may be obtained from the Utah Experiment Station. Logan, Utah.

The Goodwin Jerseys

One of the good bulls of the Goodwin Jersey Farm at Canon City, Colo., is being offered for sale, as will be noted by consulting the advertising columns of this issue. The Goodwin herd was shipped from Holden, Mo., last October. The herd sire is Jacoba Irenes Chromo, 151319, whose blood lines go back to some of the champion butter test cows of the breed. The cows in the herd are descendents of such sires as Champion Flying Fox, 61441; Eminent, 69631, and Carnation Fern Lad, 63542, all sons of Imp. Golden Ferns Lad, 65300.

The Kerosene Engine

The scarcity of gasoline and the high price at which it is selling today is stimulating a freer use of kerosene on the farms in the operation of the various farm engines and machines. Kerosene is found to give motive power more economically than gasoline and depending on the engine and the grade of oil produces a quality of power just as satisfactory. The kerosene engine and farm machine are ready to take up where the gasoline motor leaves off. Most engines which operate on kerosene may also operate on gasoline and other motive agents, though the reverse is not true of gasoline engines.

There is a place on the farms this year for every bit of mechanical power obtainable. Man power is sadly lacking in supply and the deficiency must be made up as far as possible from mechanical sources. If the gasoline engine cannot be installed the kerosene engine is surely economical and efficient enough to establish its universal use on the farms of the country. Kerosene is selling at one-half the price of gasoline and is much more plentiful.

Pick up the plow where it stands in the furrow—patriotism is the practical doing of the next job.

President Wilson says that measured by the man test, rather than the acre test, the American farmers are the most efficient in the world. They produce less per acre but much more per man. The man test is a better test.

Kansas Germ-Free Fluid Vaccine for **Blackleg**

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

The Kansas Blackleg Serum Co.

LIVESTOCK EXCHANGE BLDG., ROOM 407, DENVER, COLO.

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred

We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Write us for prices and detailed information.

OFFICES

First National Bank Building, Cheyenne, Wyoming
406 New Live Stock Exchange Building, Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager

WM. J. ROSSMAN, Ranch Superintendent **JAMES C. ADAMS, Salesman**

Shorthorn and Polled Durham Cattle

Valentine's Last, X12316, 452008 at head of beef herd. Claywood White, 427350 at head of milk type.

STATE INDUSTRIAL SCHOOL
Golden, Colorado

DRAFT HORSES AND BEEF CATTLE

can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

$25 Holsteins $25

You can buy calves for less but when you buy stock from Roberts you get value received. High Grade 15-16 pure, 5 weeks old calves. Specify markings. Express paid. Satisfaction guaranteed for $25. Cows $125.

J. A. ROBERTS
Cattle Expert **Waukesha, Wis.**

Goodwin Jersey Farm

offers for sale the Jersey bull Prince Eminent ad No. 162397; fine individual; well grown; well bred. Price $100.00. Write for photo and breeding.

W. W. GOODWIN
R. F. D. No. 2 Canon City, Colo.

HIGH GRADE HOLSTEINS

WE OFFER FOR SALE, choice, beautifully marked heifers or bulls, 3 to 5 months old, $45.00 crated F. O. B. cars. Write

W. C. KENYON & SONS, Elgin, Ill.

De-Braying the Mule

prominent veterinarian advocates cutting of certain muscles in the le's tail to render him brayless. experience has been that there is gether too much activity in that tor. We prefer being hee-hawed —H. W. D. in the Kans. Industrialist.

Protection From Lightning

Farmers should protect their stock from lightning, points out H. H. Fenton of the Division of Extension, Kansas State Agricultural college. This is the time of year when severe electrical storms may be expected.

"Wire fences mounted on wooden posts should be grounded every few rods," said Mr. Fenton. "If the fence is mounted on iron posts there is practically no danger. Wood is a nonconductor of electricity while all metals make fair conducting paths. The charge of electricity in the cloud produces an opposite charge beneath it on the buildings, fences, trees, and ground. Should a fence with wooden posts be in the path of discharge no suitable path to the ground is afforded.

"Stock drift, just before a storm to the boundary of the space in which they are inclosed. If this boundary is a wire fence on wooden posts there is great danger, as the body of the animal presents a better path for electricity than does even wet green timber. The stock will furnish the missing connection even though eight or ten feet away—and this means loss of animals.

"Grounding can be done by driving a small iron rod down three feet into the ground and attaching a wire securely to it, and all the wires of the fence directly above it, leaving an end six or seven inches long sticking up above the post to act as an individual lightning rod. The ground rod should be bright and clean, preferably galvanized, and one-fourth inch in diameter. The connecting wires must be clean and all wires of the fence where the joints are to be should be tight to insure perfect contact. This affords a short path to the ground for any charge which may be on the wires of the fence."

So long as the boys are at the front, difficulties are to be subdued, impossibilities to be trampled down.

Buy War Savings Stamps.

THE ENTIRE HERD

J. O. D.

Registered Herefords

FOR SALE

73 Cows With Calf by Side and in Calf—10 Bulls

ALL OF THE BEST ANXIETY BREEDING

Some of the cows will weigh as much as 1,600 pounds. All registered. All good breeders. All in good condition.

Price $350 per Head

F. O. B. Aroya, Colo.

The bulls consist of herd bulls and young bulls ready for service.

Priced from $125 Up

This is one of the best registered Hereford herds in the country. Investigation will convince that it is priced for quick sale. The entire herd must be sold—will not sell part. Terms, if desired, will be made. One-half cash, liberal time on balance.

Owing to labor and consequential feed conditions, we are going out of the cattle business.

Address J. O. D. RANCH, Aroya, Colo.

D. SCHILLING

Third Annual Sale of

Registered Herefords

BY THE

Hereford Ranch of Walden, North Park, Colo.

300 HEAD

200 COWS **100 BULLS**

Will be Sold June 11th and 12th

Also the following herd bulls, now being used with this herd of cows, will be sold:

MAPLES LAD 34th, by Bonnie Brae 8th.
REPEATER 29th, by Repeater.
ARRON MISCHIEF, by Beau Mischief.
PARCIFAL MILDRED, by Parcifal.

Over half of the cows—Disturber and Fulfiller breeding—will have calves by side on date of sale, sired by these abovementioned bulls.

Send for Catalog

J. H. DICKENS, Proprietor -:- WALDEN, COLO.

High Class Jerseys and Durocs

"THE WESTERN HOME OF THE MAJESTY'S"

Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the other day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, better get a Majesty bull calf while the getting is good. I have them. Also a few fall boars, splendid good ones, at right prices. I will have something still more interesting to tell you very soon about Majesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

War Forces Great Changes in Farm Economics

Continued From Page 5

age by these great buying agencies. Production of food does not take place evenly over the year; it is seasonal. It is entirely possible for such a monopoly to manipulate prices in the season of surplus marketing to figures far below the producers' cost. Again, transportation, both inland and overseas, is subject to every vicissitude of war. Temporary stoppages in transport can produce every speculative disaster unless some stability is given to markets. Therefore both sides, consumer and producer, must be safeguarded by wise direction of this buying power, and this is bound to result in price regulation in certain commodities in just protection to both.

But right at this point arises to me a fundamental principle in national war economics. I do not believe that any person in this United States has a right to make one cent more profit out of any employment than he would have made under pre-war conditions. I do not care whether this refers to the farmer, to the laborer, to the manufacturer, to the middlemen, or to the retailer—to me, every cent taken beyond this standard is money abstracted from the blood and sacrifice of the American people.

I do not believe that extortionate profits are necessary to secure the maximum effort on the part of the American people in this war. If we are going to adopt that theory, we have admitted everything that has been charged against us of being the most materialistic, the most avaricious, and the most venal of people in this world.

It Would be a Weakness

If we are going to admit that the government, in order to secure the supreme effort of its citizens in production must bribe them with money to this extra exertion, we have admitted a weakness of American character, of American civilization and of American ideals that puts us on a plane below German kultur.

Do not mistake that I am saying that prices and wages should return to the pre-war normal, because the incidence of war before we joined in it had lifted our costs of operation, and there must be compensation in every direction. Nevertheless, I hold that any man who has made more than his necessary living out of the cost this nation is giving in the blood of the boys we are sending to France should not stand out as a benefactor to his community.

I have had this statement met before now with the expression that it is dreamy idealism, but I have found no individual who was prepared in his own instance to defend any such line of action.

It is true that this doctrine has been made law only to the larger food trades. I am confident that profiteering has from a national point of view disappeared in the regulated food trades, and in consequence my belief is that it should be applied generally to all business in this community, and it is also my belief that before we are finished with this war, that will have been done.

To me, this goes much further than the mere case of the individual and the blame that may be attached to him. As I have seen this war develop from an active participation in its backwash and misery since its first day, I have seen growing out of the masses of people in every country aspirations for a great economic change. That change, broadly, will be, in the view of extremists, that those who work with their hands will obtain a larger portion of this world's goods and those who work with their brains will obtain less, while those who do not work will probably obtain nothing.

Not by Convulsions

If we are to bring about this economic change in an orderly and American way, and not by convulsions during the period of recuperation from the war, we must lay the foundations for it now. None of us wants a repetition in the United States of the history of the last twelve months of Russia. The proper social development of this country along these lines fills the background of all men's minds and its proper guidance rests upon the liberal and thinking men of the country.

The enforcement of this law against profiteering in the food trades is a considerable part of our anxieties. In order to determine how far we have succeeded—that is, how far the margin between the producer and consumer has been diminished—we maintain positive data in our organization.

To illustrate this, we have calculated a price index based upon the food values of the principal commodities. For instance, a rise of a half dollar a dozen in eggs would be a good headline, but it is not as important to the country as a rise of a cent a loaf in bread. Upon this basis we find that since the Food administration was founded the price of food commodities has increased 18 per cent to the producer and at the same time it has decreased 12 per cent to the consumer. The margin is thus smaller by 30 per cent—in fact, it is now so narrow that price charges to the producer directly reflect to the consumer, and the Food Administration has to take all of the curses of both sides.

This has ben accomplished largely by voluntary co-operation of the food trades. Ninety-five per cent of our traders desire to serve the common interest, and the measure of their co-operation is one of the most illuminating proofs of the high sense of service in our people While isolated instances will occur, I am convinced that at no time in the last three years has there been as little speculation and extortion in the nation's food as there is today.

Never before has so much land in Scotland been placed under the plow for grain and root crops. Official reports received by the United States Food Administration tell of extensive grazing land being placed under cultivation with the hope of improving the food situation in the British Isles. Altho such an agricultural policy means a probable decline in the famous sheep and general livestock industries of Scotland, the tillage of more land is considered vitally necessary and in support of this belief, the experience of densely populated European countries is cited.

When War gardens were first talked of last year, Mr. H. S. Firestone of the Firestone Tire Co., Akron, O., worked out a practical plan whereby Firestone employes might cultivate individual gardens on the big piece of company land in Firestone park set aside for this purpose. It was arranged that whenever a man worked his garden he punched a time clock when he began and when he finished. Thus was established a basic and accurate record of the time spent. At the end of the year when the total produce was checked against the total time spent in raising it, it was found that each man had earned the equivalent of 94c per hour for every hour he worked.

How the Armies' need for meat was answered

IN a fighting man's ration, meat is the important item. Twenty ounces of fresh beef, or its equivalent, is called for daily.

To supply the meat needs of an army that was suddenly expanded from 100,000 to 1,500,000 is a tremendous task. Added to the needs of the Allies, it is a staggering one.

The American stockman and the American packer may justly take pride in the way they have met these needs.

During 1917, stockmen sent to market nearly 2,000,000 more cattle than during 1916. Yet at the end of 1917, the Department of Agriculture reports more cattle remaining on American farms than at the beginning of the year. The production of hogs has also been increasing. All of this in spite of high feed prices, and scarcity of labor.

How the packers have done their part is shown by the fact that in one week, Swift & Company was called upon to supply the Allies and the American Armies abroad 24,000,000 pounds of meat and fat—enough to have fed America's peace-time army for more than six months.

An order of this size means the dressing of 13,000 cattle and 200,000 hogs.

To move the finished products, 800 freight cars were needed. Of these 650 were from the Swift refrigerator fleet.

Three days after the order was received by Swift & Company, shipments began, and the entire amount was rolling seaward within a week.

Since January 1, 1918, over 400 carloads of our products per week have been shipped abroad on war requirements.

The nation's meat supply machinery has stood the test.

Not once has there been a failure on the part of the American farmer or the American packer to supply the government's needs.

On their part, Swift & Company performs their service without governmental guarantee of profit and with a limit of 9% return on capital employed in the Meat Departments, which means about 2 cents on every dollar of sales.

Swift & Company, U.S.A.

UNIVERSITY OF ILLINOIS
JUN 20 1918

WESTERN FarmLife

Vol. XX Denver, Colorado, June 15, 1918 Semi-Monthly

On the Banks of the Platte River at Littleton, Colorado, Showing Average Run of Water During May. The Mill is Run by Water Power.

FREE THIS LIBERTY WAR ATLAS MAP

It Unfolds a Thrilling Story of the World War for Freedom

WITH a sudden flash of recognition, and a deep thrill of complete understanding, one looks for the first time at the new Liberty War Atlas Map. What a picture it presents! It provokes first a strange feeling of awe, and almost dread; and then a hot wave of patriotism and eager hope sweeps away all other emotion, as the real significance of the symbolism on the map is plainly seen.

"This nation cannot longer exist half slave and half free," said Lincoln, more than fifty years ago, and now we are learning that the same truth applies to the whole world. The new Liberty War Atlas Map shows, for the first time, the mighty powers of darkness and tyranny seeking to sweep over and blot out the forces of freedom. It shows, also, bold and bright, pressing hard against the dark menace, on a front 375 miles long, from the North Sea to the Swiss border, the red, white and blue battle line of liberty.

The Germans are now hurling against that line their most tremendous assault, adding fresh armies from Russia and Austria. The world is waiting, tensely. France, England and a million of our boys, we are told, are fighting shoulder to shoulder along that great battle line of red, white and blue.

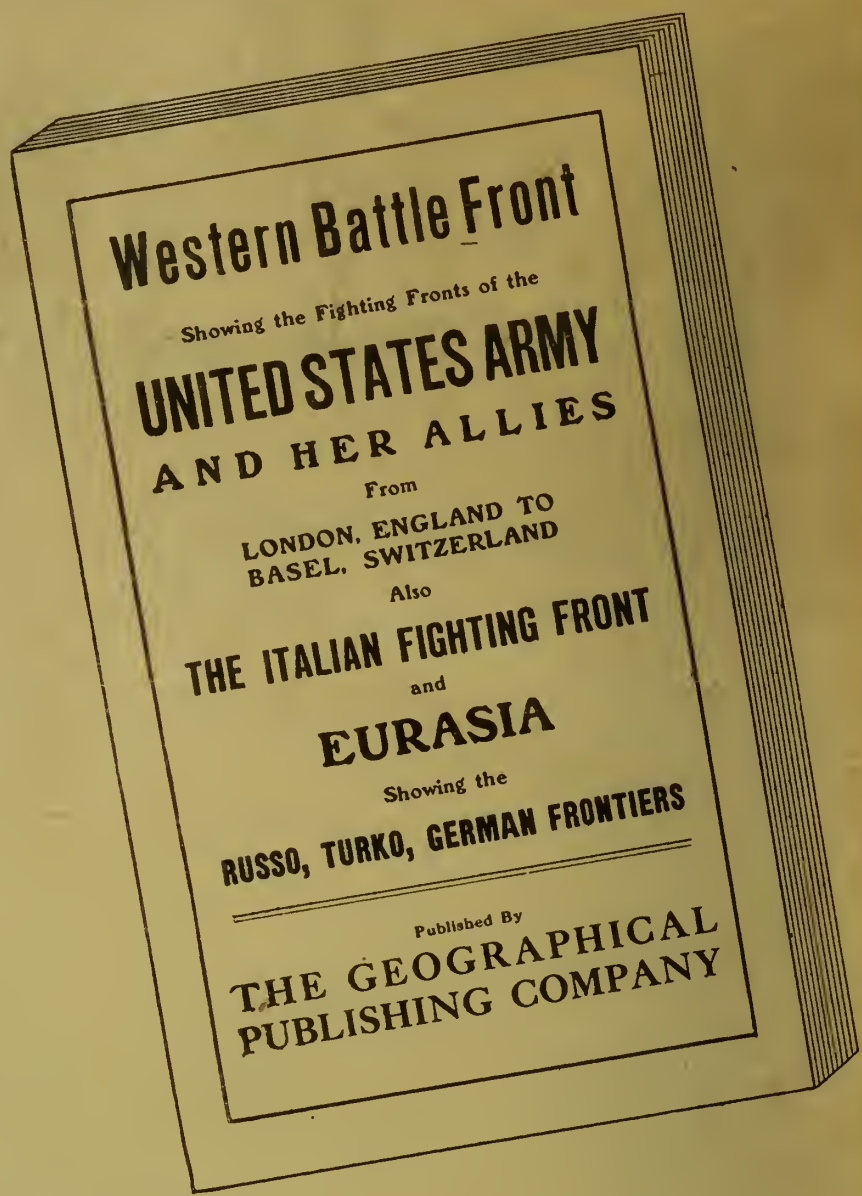
The line twists and bends from town to town, from hill to hill, thru field and forest and swamp, thru ruin and devastation indescribable. Every bend and every salient, every town and hill, and wood, and river, and railroad, there on the Liberty War Atlas Map, tells some part of the tragic story of the four years past. What will be the story in the fateful summer of 1918?

Our American boys are in the thick of the fight, driving or holding the enemy back. Many questions will come up daily: Where will the next big strike be made? What German territory is nearest? What ravished cities of France can our boys rescue from the Hun? What rivers, or canals, or railroads, or mountain ranges are in our path to help or hinder? With every news dispatch and every letter from the American Army in the field a flood of such questions will press for an answer. We want to know at once. We want to locate the places and the battles. We want to be with our boys in spirit, and it will help a lot to be able to study the red, white and blue battle line on the Liberty War Atlas Map.

The Liberty War Atlas Map folds up in a book cover, as shown in the illustration. It is 28x36 inches, the same size as a large wall map. It gives the entire Western War Area, is enlarged to a scale of twelve miles to the inch. In addition to giving the whole field of operation on the same sheet, it shows the Italian front in detail and an outline map of all Eurasia.

Railroads and highways are shown practically complete. Fortresses, hills and other places of military importance are shown with completeness, convenience and legibility. For the first time is shown the U. S. Naval Base in France and the line of communication from the port on the Bay of Biscay to the U. S. Army Base just back of the fighting line.

An alphabetical indexed list of over 5,000 places, with key numeral and letter, accompany the Liberty War Atlas Map. This enables you to immediately locate any place you hear about or read about in the papers. The Liberty War Atlas Map will be a treasured thing in your home to keep in a handy place for ready reference.



Now, by making a contract for a large number of these Atlas Maps before they were published we were able to buy them at a very low figure—in fact, so low that subscribers of WESTERN FARM LIFE can get a copy of the LIBERTY WAR ATLAS MAP by merely extending their subscription for two years.

Some who are paid up two, three, even five or six years ahead, may first hesitate. To those we can only say—WESTERN FARM LIFE will be worth as MUCH, at least, for many years ahead—more, we firmly believe, and this famous Atlas Map is really unusual—unusually valuable—an Atlas Map extremely well worth having TODAY.

SEND NO MONEY Simply fill in the return card enclosed in this copy of your WESTERN FARM LIFE and mail. We will send you the Atlas Map postage paid. Keep and examine it for ten days. If you are not satisfied with it, if you do not think it worth all we claim, simply notify us and we will send you postage for its return and call the deal off. You will be out nothing. But if you desire to keep the Atlas Map, we will enter your name for the extension and send you a statement of your subscription in the usual way. No extra charge.

Don't bother to write; simply mail the enclosed subscription card and your copy of the Liberty War Atlas Map will go forward to you immediately for free examination, all charges prepaid.

WESTERN FARM LIFE, 1402 Arapahoe Street, Denver, Colorado

What Grains Contain Gluten

As long as the war lasts it will be necessary for American householders to save wheat. The habit of using other cereals, once acquired, undoubtedly will become permanent. It will not effect wheat production adversely and it will have a tendency to broaden the stock raising farmer's feeding program, especially in the western states, where too much feeding grain is being bought. Barley, rye and the grain sorghums, (kafir, milo and feterita), are the supplemental grains that are of great value, both for human food and stock feeding and that fit nicely into the cropping program of the mountain states farmers. Growing more of these grains does not necessarily mean less wheat, but additional idle acreage cultivated in regions where these grains do better than wheat.

It is the purpose of this article to discuss the matter only from the standpoint of human food; to point out the value of the supplemental grains and show where they differ from wheat for household use.

Gluten is the particular substance in the composition of wheat that accounts for the popularity and usefulness of that grain in the household, in preference to all others. Lack of this substance does not make the other grains less nutritious, but merely less tractable for the kind of baking to which the American householder is accustomed. Gluten is a tenacious and elastic cereal protein that gives the loaf its lightness and enables it to to hold its shape. Gluten is a com- of which gliadin and glutenin are the most important from a bread making pound of several protein substances standpoint. The wheat grain contains these to a larger percentage than any other cereal.

Rye is considered next to wheat in gluten content, and is of practically equal food value, darker in color than wheat and with a different flavor that is preferred by some to wheat, by others appreciated as furnishing an occasional variety in the bread diet. It contains gluten, but the gluten lacks the elastic, tenacious quality of the gluten in wheat, and therefore, the rye loaf is not so light, as the dough does not rise so well. Rye has a greater protein content than wheat, but its protein is not quite so digestible.

Barley and oats have been little used in bread making until the present food emergency forced us to resort to substitutes of all kinds. Neither barley nor oats contain any true gluten, but they contain other proteid nutrients which make them of high food value, without, however, the advantage of yielding a light, attractive loaf. These grains contain relatively more indigestible cellulose than wheat and rye.

Corn has always been used, more or less, in the American home—perhaps less in the mountain states than elsewhere, because so little corn is grown in this region for milling. It has a high food value, but like barley and oats, is lacking in gluten and, therefore, will not make a raised loaf, if used without wheat flour. Breads made from corn flour or meal dry out quickly and must be eaten fresh to be palatable.

Flour and meal made from kafir, or its allied grains, is gaining in popularity and would find a much greater use if it were to be had. It resembles corn in composition and nutritive value, but has a flavor that is preferred by many to that of corn, and it does not dry out so quickly after baking. It must be cooked much longer than corn.

Rice is another of the substitute cereals that has lately been more generally used as a flour, but it has nothing to recommend it except its whiteness. It is very low in protein, containing no gluten, but higher in starch content than any other of the cereals. Its principal field of usefulness since wheat saving began, has been in cake baking. It is a tender southern plant and cannot be grown outside of a limited area, because of its tremendous water requirements. Its use should not be encouraged in this region, because we have other supplemental grains for human food than can be grown and milled at home —and this is one of the features of the tendency toward thrift that is emphasized.

The war calls for the team work of soldier son and soldier father—the hero of the trenches and the hero of the furrow.

This is your first chance to defend the flag; go the limit.

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Red Clover In the Truck Gardener's Rotation

HOW THEY KEEP UP FERTILITY IN THE CLEAR CREEK VALLEY

ALVIN T. STEINEL

The Old Truelsen Home

RED clover is proving an increasingly valuable factor as the leguminous crop in the rotation on mountain farms. Dr. E. P. Sandsten makes mention of this in his latest potato bulletin (No. 243. "Potato Culture in Colorado"), stating that its popularity over alfalfa is due to the fact that clover is easier to kill out and that the soil can be put in perfect condition at less expense than after alfalfa.

The use of red clover is confined to small farms where the hay crop is less important than the fertility obtained thru the growth of a regume and where, as a rule, the power and implements are graded to intensive operations, rather than extensive farming. In the truck garden district of the Clear Creek valley, west of Denver, red clover is serving its purpose very well. The writer recently visited the farm of James Truelsen in that district, to observe the progress of a red clover rotation in a truck cropping system.

Mr. Truelsen is enthusiastic in his recommendation of red clover in preference to alfalfa on the small tract. He has twenty-five acres in truck crops, chiefly asparagus, onions and strawberries. There is ample water for irrigation and it is applied to everything but the asparagus. In connection with that plant the writer stumbled upon an unusual condition.

"This patch," said Mr. Truelsen, pointing to one of the asparagus plots, "has been established for eight years and in that time has never had a drop of irrigation water."

"Has it any underflow or seepage?" was asked.

"No chance for gathering moisture from below if there were any," said Mr. Truelsen, "because it is a shallow rooted plant and the root growth is upward instead of downward. The shoots are all in the ridges above the surface of the ground. We get a tremendous yield without a bit of irrigation."

Further inquiry developed that the seepage water from the ditches on the hillside above the tract was carried away by a good tile drainage system; in fact, without this drainage system truck crops would be a failure on the place. The only conclusion that could be reached regarding the remarkable showing of the asparagus was that Mr. Truelsen is keepink the soil so well supplied with humus that its water holding capacity is at maximum all the time. The average rainfall cannot be much different from that in the city of Denver, where it is 14 inches per annum, on a forty years' record. How to grow ten tons of asparagus each season on four and one-half acres without irrigation, under such a light rainfall, is explained as follows:

1. The largest yields are obtained on a light sandy soil, this being the character of soil best liked by the plant.

2. Deep plowing precedes the setting out of the roots—10 to 12 inches deep. The soil is heavily manured, at the rate of 20 to 30 tons per acre, every season.

3. The rows are ridged up at least a foot high and kept ridged with a lister.

4. Thoro cultivation and working of the soil, providing a warm, mellow seedbed that is kept supplied with humus season after season, until it reaches a maximum water holding capacity.

Those are the four factors contributing toward the high yields. To this Mr. Truelsen has added a fifth, the use of a green leguminous fertilizer in the shape of red clover. This is used for the benefit of all truck crops, the onions and strawberries as well as the asparagus. The rotation will work out something like this:

Starting this spring red clover was drilled in with oats early in April on about three acres, using 15 pounds of clover seed (Mammoth), 5 pounds of timothy, and 2 bushels of oats. The lower end of one plot is subject to some overflow from an irrigation lateral and there the red clover does not do well, a second year's stand, however, showing that this spot is thick with timothy which likes water. In the rest of the plot there is a fine stand of clover and little timothy.

The oats will be allowed to ripen, because previous experience brought yields of 60 to 80 bushels of oats, which goes quite a way in feeding the two horses that furnish the necessary power for plowing and cultivating the tract. The oats will be cut in August, but the clover will be let alone this year. Next season, if it continues its record of the past, it will yield four to six tons of hay in two cuttings. It will again be cut for hay the third year and, having by that time done its service in storing nitrogen, it will be plowed under in the fall, as deeply as it can be turned. Then and there its great advantage over alfalfa will be shown, because of the comparative ease with which it can be turned under and the condition in which it will leave the ground after that operation.

Following this plowing a few weeks will come the late fall or winter manuring. This is never done in a stinting way. Manure is bought in Denver or on neighboring farms—anywhere it can be got, because of its great value as fertilizer. The automobile is making it scarcer every year and forcing the truck farmers to green manuring.

The manure is plowed under to be mixed with the green fertilizer of the clover and thus there are two fall plowings. In spring the ground is worked again, and then the particular garden crop that is in view is planted. If asparagus, no water is applied. If strawberries or onions irrigation when necessary is the rule, but never too much water. Mr. Truelsen says he is glad to have all the water he may ever need, because he has water rights in two ditch systems supplying his farm and exclusive control of a creek that borders the place, out of which he may take water as he needs it. BUT—and this is good for all who irrigate—he has told farmers they will see the day when they will wish to get rid of the water that is souring their soil and leaching out the fertility.

Drainage takes care of that for him. He has gone thru costly experiences in the last thirty years in irrigation and drainage, and he is ready to share the lessons with others. He paid a big price for the land originally—that is, big for those days. He had the business of truck gardening at his finger's ends; knew it thoroly from his youth in Denmark, his native country. He had to learn about irrigation by experience. He knew the value of a well drained soil and saw the need of it the first year he started to flood his gardens. But there was a mortgage on the place that looked bigger than the whole twenty-five acres—a regular wet blanket. So he set to work laboriously to build a rock drainage system, because the rocks were near at hand and cost little except the labor. This didn't work, so next he tried wood. He knew how wood would swell up and be preserved if carrying water and the wood did not go back on him, but the nails did. They got rusty and the troughs fell apart in the ground; another failure.

By that time the sale of garden truck had given him a little start and he could afford to have tile drainage put in. His experience with rock and wood taught him another lesson and he applied it to tile. He had the tiles laid on narrow strips of wood, 1x4's, to keep them level and keep the joints from sagging. Today he has a perfect drainage system. He has never been obliged to dig up a single tile.

The first ground that was put into red clover is now in strawberries and the plants are thrifty. They will stand probably not more than three seasons and then onions will follow. The clover is expected to bring back the old time yields of strawberries, which have been falling off. Mr. Truelsen grows several varieties of strawberries, but one of them is selected not for its high yielding qualities but because of its particularly sweet blossoms. Honey bees that forage in the patch like this nectar and carry away from it the pollen that fertilize the adjoining rows of a heavier yielding variety. The bees belonging to neighbors perform this service for Mr. Truelsen's berries and the neighbors get their pay in honey. (The bees get nothing except subsistence and the mere pleasure of working.)

The labor question is a serious one on garden tracts. Asparagus harvest begins about May 1st, or sometimes a few days earlier, and lasts all the way up to July 4th to 15th. At the time of my visit from 800 to 900 lbs. of "grass" was cut every other day, the cutting of each day being tied into bunches that day and delivered at the city market in Denver early the following morning by auto truck. Much of it goes into domestic consumption in Denver, some goes to Colorado and Wyoming small towns and occasionally there is a shipment east as far as Kansas City. Nine persons were engaged in handling the asparagus, five at cutting and four (the latter members of the family) at bunching.

When the asparagus begins to run out strawberries come in and it takes even more labor to attend to picking and marketing. In the fall the onion crop takes time and labor.

Mr. Truelsen holds a record of over 29 tons per acre on onions and he once made an offer of $500 cash to any gardener who could beat him on size and quality of onions. In the last few years the onion crop has fallen off, because of the ravages of the thrip, an insect that sucks the juices from the leaves and stems. Spraying with tobacco solutions and soapsuds, repeated as often as necessary, is recommended for this pest, together with destruction of all litter that remains in the onion field in the fall, to clear the ground of infection. Many gardeners are having trouble with the thrip which, according to Mr. Truelsen, has cut the yield in Colorado 35 per cent. He formerly averaged 20 tons of onions to the acre and now his yields have gone down as low as ten tons, the onions being much smaller in size.

While contending with weather and insect troubles that are the lot of all tillers of the soil, Mr. Truelsen is not complaining. He is successful in the highest sense; his farm, in spite of thirty years of constant cropping, is more fertile today than when he began. The mortgage has long since been lifted and in place of the rambling old dwelling that once housed the family, their home today is in a modern, electric lighted brick build-

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The New Home, a Modern Farm Dwelling

Birds Help Farmer Save Crops from Insects

MANY MOUNTAIN SPECIES OF BENEFIT TO AGRICULTURE

W. L. BURNETT

YOU seldom pick up a paper, whether a metropolitan daily, with its hundreds of thousands subscribers, or the small country weekly, but what you will see an article on conservation. This is an opportune time to cry conservation, and bring to the people of the good old U. S. A. the message, that they are the most wasteful race on the face of the globe.

Nature has endowed this country wonderfully, not only with those things that satisfy the inner man, but with things that are pleasing to the eye and ear,—the forests, the mountains, the flowers and birds. Not only are birds pleasing to the eye and ear, but they fill a place in the economy of nature by the destruction of injurious insects, rodents and the seeds of noxious weeds, and should have adequate protection.

There are always two sides to a question, however, be it law, business, politics or religion. This is also true of bird protection. I am for bird protection with a big P, but when the birds destroy my favorite cherries and choice strawberries I will have to admit the P doesn't look quite so large.

Economic ornithologists, as well as other writers on economic subjects, are prone to become biased in their views, and a bird to them is either beneficial or harmful. They seldom take the middle ground, so they make statements, as to the economic importance of birds studied in their locality, that are supposed to hold good for the entire country, but these are not always facts.

Different environments may cause one of our most beneficial birds in one locality to be of much less economic importance in another. We will take, for example, our fruit eating birds. As a rule they prefer wild fruit when obtainable, and observations made by a writer concerning a certain bird in the New England States, where wild fruits are abundant, may not hold good in our own state, where we have very little of this natural food, causing the birds to turn from their native food to the more easily obtainable cultivated fruits.

But this is not what I started to write about. I wished to call the reader's attention to a few of our common Colorado birds, and the important part they play in the conservation of food, by the destruction of injurious insects and rodents, and the destruction of the seed of weeds that cut down our yield of crops, every pound of which is so important at this time in feeding the world.

A prominent entomologist, Professor O'Kane, estimates the annual loss from injurious insects in the United States at one-billion dollars. The important part that the birds play in keeping this loss down even to these figures, cannot be oerestimated. Birds are warm-blooded animals, and with rapid digestion and perfect assimilation they require an enormous amount of food.

Hawks and owls have long been known by naturalists to be of great economic importance because of their habit of feeding extensively upon rodents and insects, known to be injurious to agricultural crops. All the hawks and owls that occur in the state, with the exception of the goshawk, sharp-shinned hawk, and horned owl, are protected by law, but thousands of these birds are annually destroyed, not only in our own state, but in others, by gunners and farmers, who consider them enemies to game birds and poultry. Poultry eating hawks and owls are not common in Colorado.

Our common hawks are Marsh-hawk, Western red-tail hawk, Swainson's hawk, sparrow hawk, and two species of rough-legged hawk. Our common owls are long-eared, short-eared and Rocky Mountain screech, none of which make a practice of molesting the poultry yard.

Of the hawks mentioned above, ranking in order of their economic importance are Swainson's and the Marsh hawk. The Marsh hawk is one of our most persistent mousers, and can be seen at all hours of the day beating his way across the fields and marshes, hunting for field mice. Swainson's hawk also destroys a large number of injurious rodents, and is of great importance as a destroyer of grasshopper pests, as they feed at certain times of the year almost exclusively on these insects. But the writer realizes that to talk with the average person about the beneficial traits of hawks and owls, is about as useful an occupation as placing ones finger in a pail of water, withdrawing it, and looking for the hole.

Most all species of birds found in Colorado are subspecies of the eastern forms. This is true of our meadow lark, which is known as the western meadowlark. It is a much more showy bird, with a sweeter, more liquid song, and does not have the shy retiring disposition of its eastern relative.

The western meadow-lark is one of our most beneficial birds, since it feeds on insects, insect larvae, and weed seeds. The principal insects eaten are what are known as our most injurious ones. This is also true of the seeds eaten, as they belong to our most troublesome weeds. It is true that meadow-larks eat some grain, but the most of this is waste, left in the fields. Not only are meadow-larks valuable to us from an economic standpoint, but they are about the only bird with a cheering song that inhabits the treeless prairies. A few of these birds remain with us during the winter, but the most of them migrate, returning from the South early in the spring. Meadow-larks nest on the ground. Therefore they have many enemies. Their most destructive enemies are snakes and cats, both of which should be exterminated. (Butis this is not a snake or cat story.)

Two of our early harbingers of spring are the well-known mountain blue-bird, and the western robin, familiar to most of us from early childhood. I think I have met onl one man in my life-time who wa not acquainted with the bluebir and none but what knew the robi Everyone is a friend of the bluebir and his reputation as a beneficia bird has never been questioned. It food consists of insects and th seeds and berries of wild plants an shrubs. The food of the robin i about the same as the bluebird, onl more fruit is eaten. In some local ties they do considerable damag thru their fondness for cultivai ed fruit, and in the fruit season th relations between the robin an fruit grower are sometimes strainei almost to the breaking point.

One of our most beautiful, abun ant and useful birds, is classed b wise legislation (?) as a game bird and a law that makes it legal t slaughter by the thousands the in nocent mourning dove is a sad mis take. Almost exclusively a grani vorous bird, this dove feeds on nox ious weed seeds and waste grains o all kinds. A few insects are eaten but not enough to class it as an in sectivorous bird. Doves breed, as a rule, more than once during a sea son, and I have found their nests with eggs during the open season.

The black-headed grosbeak re places in our state the cardinal red bird, of the South and middle West It being a bird of the orchards and towns, and fairly bubbling over with song, is one of our most at tractive and beneficial birds. It is a most persistent feeder on our worst horticulture pest, the scale insects. Some fruit is eaten, but not enough to be of any great importance.

According to a late government bulletin, forty species of birds found in Colorado, feed extensively on the alfalfa weevil, one of the worst insect pests we have, which has but recently been found in the state.

All beneficial birds should have the protection they deserve, and we should see that they receive it. If the birds, by their beauty and cheerful song, do not appeal to your sympathy, take a dollar and cents view of the situation.

Urgent Demand In Mountain States for Milk Goats

SHORTHAIRED NATIVE DOES FURNISH A GOOD FOUNDATION

R. M. LOVE

There is an insistent demand in the west for good milk goats and very few breeders to supply this demand. The following article, written for Western Farm Life by R. M. Love, formerly a rancher at Artesia, N. M., but now located at Hutchinson, Kan., contains some practical suggestions regarding the way in which herds should be bred up, with native does as a foundation. Mr. Love has been successful with milk goats and he writes from experience.—Editor.

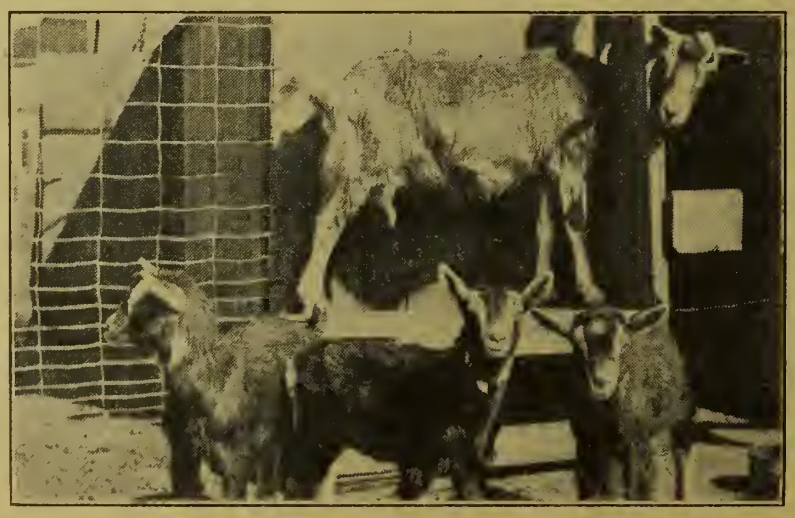
COMPLYING with the request from many interested subscribers, I will give some idea in regard to a branch of stock breeding that is now becoming of wonderful importance in the national economy.

Assuming that the conservation of human life is the biggest problem before the American people today, Julia C. Lathrop, Chief of the Children's Bureau of the U. S. Department of Labor, at Washington, D. C., has inaugurated a country-wide campaign to save the lives of 100,000 children under five years of age.

The opportunities for helping in this great work are many, but this article will only touch on one phase of the problem, and that is with reference to the economy and efficiency of the better grades of milk goats, whose health giving contribution to the world is now recognized by a large number of physicians, nurses and hospital experts of all countries.

Ever since Uncle Sam's Bureau of Animal Industry imported from Switzerland (about fourteen years ago) sixteen Toggenburg and ten Saanen milk goats, the breeders in different parts of the country have been doing splendid work in not only keeping up the standard, but in breeding up thousands of the Spanish-Maltese and American short haired milk goats, so that today "the little friend of all the world" has to its credit, the saving of hundreds of babies that otherwise would have been lost during the last ten or fifteen years.

So important a food and medicine is goat's milk becoming that The Journal of the American Medical Association, the official organ of over sixty thousand physicians in the United States, under the heading "Dietetics and Hygiene," prints the following in regard to goats' milk: "The goat is the healthiest domestic animal in the world. It is immune from tuberculosis. Goat's milk is superior in every way to that of the cow, being nearly twice as rich in butterfat which does not readily separate from the milk unless heated. Goat's milk is the ideal food for babies, convalescents and invalids, especially for those with weakened digestive powers. Goat's milk is the purest, most healthful and most complete human food known."



Swiss Toggenburg Milk Goat, Elizabeth 1151, four years old, and her triplets, six weeks old, Red, White and Blue. This doe gives five quarts of milk per day and milks well for ten months of the year. The kids are taught to drink out of a pan the first day. (Owned by R. M. Love, Hutchinson, Kans.)

Bulletin No. 920, "Milk Goats," has recently been issued and may be obtained free by addressing Division of Publications, U. S. Department of Agriculture, Washington, D. C.

To "E. D. H." of Montana, the writer would suggest that if he provide the proper shelter in winter and during cold rains, the hardier milk goats, such as the Swiss breeds, would thrive in his state.

Wherever it is possible for breeders to obtain a number of the short haired native does I wish to urge all those who are situated to care for them, to grade these up as rapidly as possible, for there is a wonderful demand for one-half and three-quarter blooded does, at prices ranging from $25.00 to $75.00 each. Where it is possible to obtain the heavier milkers at much higher prices, the average breeder is glad to avail himself of such stock. They pay for themselves much quicker.

The market value of the writer's four-year old Toggenburg doe Elizabeth, No. 1151, is $150.00. On February 27th she gave us triplets, "Red, White and Blue," which at three months of age are valued at $100.00, and by fall will be worth as much as

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Electricity Lightens Burdens of the Farmer

ECONOMY, COMFORT, CONVENIENCE IN POWER AND LIGHT

ELECTRICITY on the farm is doing its share in lightening the burdens of the overworked farmer and aiding in greater food production. The farm lighting plant has been developed to such a stage of mechanical perfection and economy of operation that it has come to be looked upon as a necessity. Ten or fifteen years ago the automobile on the farm was considered much more of a luxury than it was in the city at that time. Today the farmer who does not possess an automobile realizes that he is doing without a machine that would tremendously increase his efficiency and save, in time and labor. amounts out of all proportion to first cost and upkeep.

The farm electrical plant is just emerging from the stage of luxury to the practical and in a few years farms not so equipped will be as scarce as auto-less farms are today. There is a widespread misapprehension on the farm concerning the electrical plant, but this is being corrected. It is this: many are somehow thinking of electricity on the farm only in terms of light, consequently have put off investigating these systems because they are getting along with kerosene or gas and change, if light alone were involved, appears to be to great an expenditure in proportion to the benefits.

The manufacturers are perhaps as much responsible for this error as anyone, because they have emphasized the lighting feature in their advertising.

It is well to remember that these plants deliver both light and power. On the farm that word power has a much greater command on attention than the word light, important as it may be to have a convenient, economical and effective lighting system. The farmer isn't like the city man in respect to his veneration of and demand for daylight for his working hours, or the "bright lights" at night. Many a farmer has been accustomed, all his life, to getting up before daylight, doing the chores in the dim dawn, working all day in the field and again doing the chores, including the milking, after nightfall in a barn illuminated (?) by the rays of a kerosene lantern. That may account for his lack of interest in bright lights alone.

However, when he is shown how he can run the milking machine by turning on a switch; how the fanning mill can be operated by electricity; how the grindstone may be turned without a human arm on the crank; how the pump will work all day by simply connecting with the juice and how, on top of all this labor saving he may have his barn by night as bright as noonday; how his wife may run the separator by pressing the magic button, or may watch the churn revolve, or may use an electric iron on his Sunday shirt, or how the family may gather around the library table in the evening and read by a tungsten lamp, or rest in the breeze of an electric fan, then you are "talking turkey."

Leaving the matter of comfort and convenience out of consideration for the moment, let us look at the electric plant for the farm from the labor saving standpoint. In the operation of the lightning system alone this saving is figured at 180 hours a year, thru lessening of labor which is reduced to the occasional turning of a switch. It is in the use of electric power, however, that the most striking examples of time and labor saving are found. The electric motor takes the place of the human arm in turning the crank, the wheel or the handle.

Take the churn, cream separator, washing machine. With an electric motor there will be a saving, on the average, of from 2½ to 3½ hours a week from each of these machines. Electricity from the farmer's own plant to run these machines will cost no more than two cents an hour. They can all be run by the same small portable motor and nine more hours a week, let us say, can be saved for necessary hand labor. Nine hours a week are 468 hours more a year to be devoted to productive work.

If the farm dairy herd is milked with a milking machine, that too can be run with electricity, with a minimum of care and attention and with a saving of an hour or more for the milking. So let's add to the annual saving at least 365 hours on account of the milking machine.

Then there are machines used occasionally, like the grindstone, the fanning mill, horse clippers or sheep shears, sausage grinder and others that the farmer will be able to operate, the saving from which would easily total another 100 hours a year.

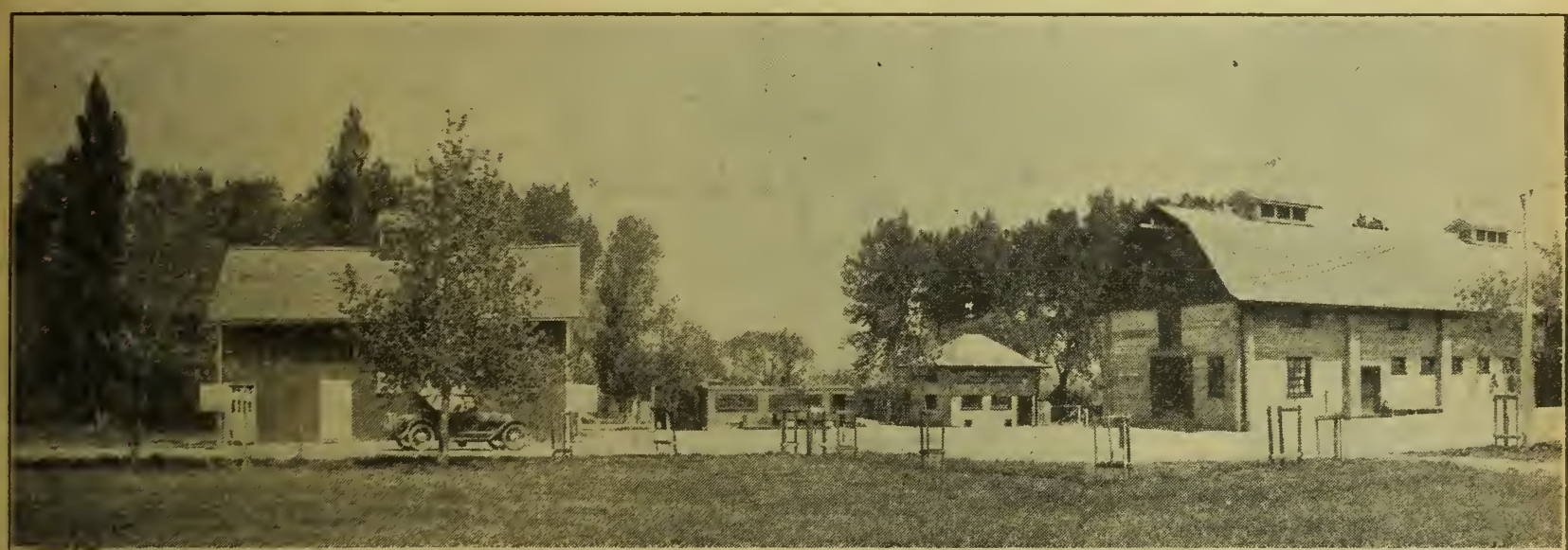
One of the most striking instances of time and labor saving is found where a water pressure system is operated by means of an electric motor. This is an absolutely automatic system, in which the motor runs when the pressure in the tank goes down and in which water is maintained at a pressure sufficient to force it thru pipes to faucets all about the premises.

Thus one can have water piped for complete household service, kitchen, bath and laundry, without any of the laborious pumping and carrying, for watering the stock without any pumping, for fire protection, for all the many uses that one finds for water about the farm, all this with every bit of the ease and convenience that are enjoyed in any modern city property.

For the average farm, there is a possible time and labor saving of two hours a day where a modern water system electrically operated is used. Two hours a day is another 730 hours a year to be added to our annual saving.

There are other ways of saving about the farm home by emans of the use of electricity, such as electric heat for the flat iron on ironing day, the operation of little grinders and the like, but the total of the items mentioned runs up to surprising figures—1,743 hours a year.

Over seventeen hundred hours to be added to the productive working time on the average farm; equal to three-fourths of the time of a hired man for the seven or eight months he is actively employed on the farm. It pays to electrify.



Horse Barn and Other Buildings on J. A. Osner Ranch, Near Denver. This Ranch Is Equipped With an Electrical Power and Lighting System

Cutting Cost of Hay-Making

THE following table shows what constitutes a normal day's work in mowing, raking, tedding, and cocking hay, giving the average acreages reported for sizes of machines most frequently used.

(Net hours in the field: For mowing, 9.52; for raking, 8.44; for tedding, 8.26; and for cocking, 9.12)

Operation	Acreage Per Day	Adjusted Acreage	Most Common Width	Number of Horses
	Feet			
Mowing	5	2	8.85	8.0
Raking	8	1	11.99	10.8
	10	2	17.91	17.0
Tedding	6	1	9.75	8.7
	10	2	15.88	14.3
Cocking (1 man)	.	.	6.29	5.7

The adjusted acreage figures given are the investigators' computation of a fair average after discounting obnormal performance and taking into account the unusual work done on farms which afford especially good working conditions.

In mowing hay, the 2-horse unit is practically universal. The limit of mechanical efficiency appears to be approached as the sickle reaches 7 feet in width. It appears that a 2-horse team is about 45 per cent more efficient than 1 horse when used with rakes of the widths reported. The 8-foot width is the most used with 1 horse and the 10-foot width with 2 horses. In tedding hay with a hay tedder or kicker, two horses appear to be 45 per cent more efficient than one.

Hauling From Cocks

The table below shows a normal day's work in hauling hay from cocks to barn, giving the daily average quoted for the crews most frequently used.

(Net hours in the field, 9.38)

Number of Men	Number of Horses	Unloading by Hand		Unloading With Sling or Fork	
		Acreage Per Day	Adjusted Acreage	Acreage Per Day	Adjusted Acreage
2	2	4.39	3.50	6.14	4.90
	4	5.30	4.30	7.94	6.10
3	2	4.55	3.90	6.44	5.50
	4	6.14	4.75	8.16	6.65
4	4	7.17	6.45	10.14	9.10
	6	9.33	7.25	14.25	10.25
5	4	7.70	7.70	10.70	10.70
	6	9.71	8.66	12.33	11.90
6	4	8.03	8.80	10.52	12.45
	6	9.11	9.85	11.53	13.60
	8	5.00	10.80	11.60	14.80

The hay fork and sling add from 30 per cent to 50 per cent to the efficiency of the crews in this work. It was also found that those who used hay loaders and hauled hay direct from the field can put away about one-third of an acre more daily per man than those who haul it from cocks, other conditions being equal. With hay loaders the operation of bunching and cocking is also eliminated. In hauling hay from cocks to barn 41 per cent of the farmers reporting used 2 men, 40 per cent used 3 men, and 19 per cent used larger crews. Seventy-three per cent used only 2 horses and 19 per cent used 4. Altho 3-men crews seemed to be much less efficient from the standpoint of acres cleared in a day than 2 and 4 men crews, nearly as many farmers report 3-men crews as 2-men crews.

Hauling From Windrows

The following table shows a normal day's work in hauling hay from windrows to barn with a hay loader, giving average acreages reported for crews most frequently used.

(Net hours in the field, 9.53)

Number of Men	Number of Horses	Unloading by Hand		Unloading With Sling or Fork	
		Acreage Per Day	Adjusted Acreage	Acreage Per Day	Adjusted Acreage
2	2	5.29	4.25	7.66	6.15
	4	6.50	5.20	6.62	7.30
3	2	5.86	5.00	7.84	6.70
	4	7.05	6.00	8.98	7.90
4	4	7.81	7.00	10.16	9.15
	6	7.66	8.00	10.37	10.25

Stacking in the Field

The table below is designed to show a normal day's work in stacking hay in the field with and without sweep rakes.

(Net hours in the field, 9.70)

Number of Men	Using Sweep Rakes			Without Sweep Rake (by hand)		
	Number of Horses	Stacked Per Day	Adjusted Acreage	Number of Horses	Stacked Per Day	Adjusted Acreage
		Acres			Acres	
2	2	9.70	6.10	2	4.85	3.90
	4	13.75	9.20	4	...	5.90
3	2	9.77	7.80	2	5.38	5.10
	4	15.48	10.90	4	8.03	7.15
	6	14.55	13.80	.	...	...
4	2	11.32	9.40	2	8.30	6.60
	4	15.22	12.20	4	9.52	8.90
	6	18.75	15.00	6	14.06	11.20
5	4	12.80	12.90	2	9.00	7.40
	6	19.70	15.80	4	9.37	9.60
	8	23.50	18.60	6	12.50	11.90
6	6	24.66	18.20	4	7.50	11.20
	8	20.33	20.40	6	12.20	13.00
				8	10.00	14.80

Comparison of the results attained in haying with sweep rakes and without them shows an advantage in favor of this simple and inexpensive addition to the equipment of about 40 per cent. Much of the cost of raking and cocking is also eliminated.—U. S. Department of Agriculture.

Government Buys Wool Clip

(Charles I. Bray)

We believe that the action of the government in assuming control of the 1918 wool clip will prove of great benefit to the wool growers from an educational, if not from a financial standpoint. It is true that wool might have brought a higher price this year than last in the absence of government control. The government prices may, in some instances, be lower than what a few growers received late in 1917. The important feature of the government's plan of marketing the 1918 clip is that the grower will have the best chance he ever did to know exactly what his wool grades and what it should bring under a given market quotation, with fair grading and fixed commissions. Since the government prices are based on the prices of July 30, 1917, anyone who sold his wool at that time and has the same kind of wool to sell this year will know whether he got all that was coming to him in 1917. The wool this year is to be graded by the government appraisers, and the country dealers and big commission men are to be held to a fixed rate of commission. This means, practically, that these sales will be conducted as if all the wool growers of America were members of a large co-operative wool grower's association and will serve as an object lesson to the small wool grower for the future.

Those desiring complete information regarding government regulations should write to Louis Penwell, Chief of Wool Division, War Industries Board, Washington, D. C. The designated distributing centers are New York, Boston, Philadelphia, St Louis, Chicago and Portland, Ore. Dealers in these approved centers must apply for permits to operate thru the Wool Division, stating their capacity for storing and grading. Those who expect to handle wool on commission or as local dealers, should also apply for a permit, giving their name and address.

In order to expedite movement of wool, dealers in country districts may operate immediately, pending the granting of permits. Clips of under 1,000 lbs. may be sold outright, the buyer being entitled to a profit not to exceed 2 cents per pound. Growers may consign their wool thru their bankers or country merchants, the commission on same not to exceed ½ cent per pound. Growers are urged to consign their own wool and get the full price, sending it to any approved dealer in one of the above mentioned distributing centers. These approved dealers will store, insure, handle, and deliver the wool under government regulations. The grower should get duplicate copies of the shipping invoice, and bill of lading, keeping one for himself. The grower is entitled to receive an advance on his wool, not to exceed 75 per cent of its estimated value. He shall pay interest on this until his wool is all at the distributing center as shown by the railroad receipt, but only till then. Since it may be three to six months before all wool can be finally graded and valued by the government, the grower shall be entitled to draw interest on the selling price of his wool, less freight, from the date of the wool's arrival until the date of final settlement.

The following table of values is merely an abbreviation of the total list of prices issued by the government:

Grade	Shrinkage	Average Scoured	Price Grease
Fine, medium staple....	65	$1.73	60½c
Fine, medium clothing..	66	1.63	55½c
½ blood staple.....	61	1.63	63¾c
½ blood clothing.....	63	1.58	58½c
⅜ blood staple.....	54	1.37	63 c
¼ blood staple.....	48	1.26	65½c
Common and braid.....	42	1.05	61 c

Fine medium wool is usually from sheep having practically all Merino blood, half blood wool such as would be produced by crossing a Merino with a longwool, and is the usual grade produced in Colorado. Quarter-blood and three-eighths blood wool is from the medium wool breeds such as Shropshires and Hampshires, and braid is from longwool sheep such as Cotswolds. Staple wool is the longest and soundest of its class, while clothing wool is that having shorter or weaker fibres.

Growers are urged to start their wool to market as soon as possible. Small wool growers should combine together to get enough for a carload, and ship direct if they can. The County Agents, Granges and Farmers' unions should be of a good deal of assistance in this.

Rains Help Wheat and Beans

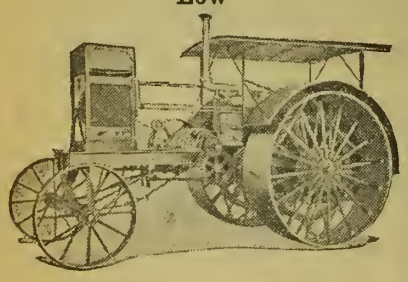
Crop prospects continue quite favorable. Just prior to the end of May an unusual condition developed in the winter wheat fields of portions of eastern Colorado . In spite of ample moisture in the ground the wheat was visibly drying out by reason of warm south winds. These were gulf winds, sapped of all moisture in passing over the enormous stretch of country in West Texas that had been practically without rain for two years. However, just at the critical period, a heavy rain fell over most of that portion of Eastern Colorado north of the Arkansas river, reviving the wheat that had shown signs of drying out.

The heavy rain was an additional incentive to bean planting in the unirrigated territory. Latest reports indicate that the acreage of 1918 will not be more than 5 or 10 per cent over that of 1917. These reports come thru the Bean Division of the United States Food Administration from county agents and other observers. They include Colorado and New Mexico, with a little adjacent bean territory in Kansas and Nebraska. The pinto crop is going into moist ground in most of the territory and planting has been done early enough to insure a good start.

Warnock Shorthorn Sale

Shorthorn men from all over the west as well as some eastern states are planning to attend the big sale of D. Warnock & Sons at Loveland, Colo., June 26th. A large lot of bulls and cows will be offered and both the breeder and the ranchman will have a chance to make good selections of breeding cows and herd heading bulls. These are the famous Model Type Shorthorns, bred and raised in Colorado by the Warnocks who came west from the cornbelt of Illinois, where the elder Warnock made Shorthorn history. His sons are continuing the good work under the stimulus of the fine climate of the Rocky Mountain region, which adds to the life and constitution of all blooded farm animals. There has been widespread interest in this sale as far east as Chicago, the Shorthorn World reporting that a number of automobile parties would be on hand from Illinois and other valley states. It is to be hoped that the mountain states farmers desiring quality will be on hand to keep the good stuff in the west. We need them out here.

Fuel Consumption Unusually Low



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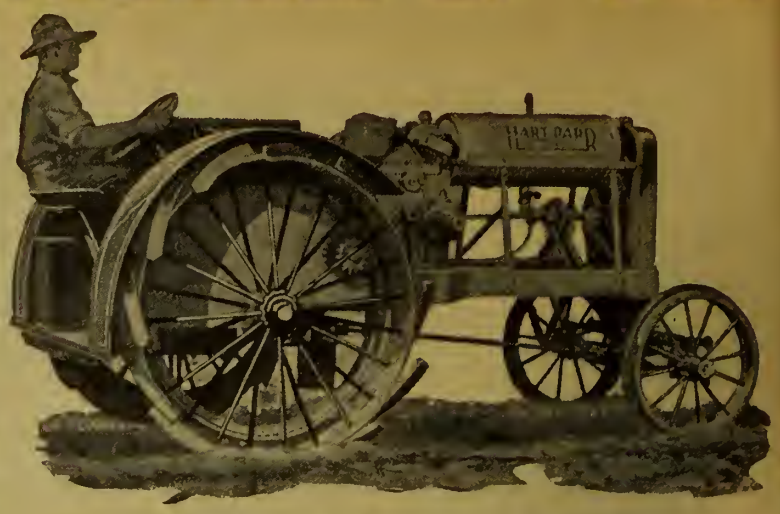

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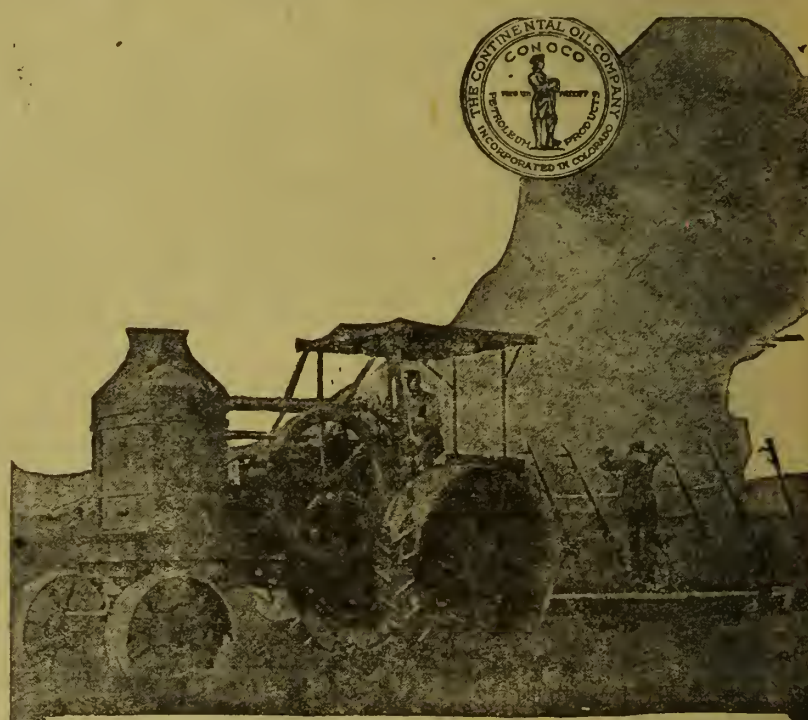

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Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Unsigned Letters Not Answered

Note—It is of the utmost importance to give your name and address when asking questions of this department. Answers are made by letter and only a few of the inquiries can be answered thru the paper. Frequently we receive unsigned questions about sick animals, with request that the reply be published "in the next issue." Material for publication must be ready for the printer several weeks before date of issue, consequently such questions are subjected to delays that often make the answers useless when finally published. Please sign your name and address; we do not publish names attached to these letters of inquiry but must have them so that we can reply by mail and give you prompt service. In future questions that are not signed will not be answered.

Parsons on Soil Blowing

I have been interested in reading the articles in your valuable paper contributed by E. R. Parsons and also in studying his book on Dry Farming, and would like to know what suggestions he could give in controlling blowing soils; what is the best way to get small grains and grasses started, to avoid blowing out? Also, if deep plowing is to be advised on light, sandy soils, and whether fall plowing is advisable in soils that blow, and where ground is too dry to plow good in the fall and until late spring, how would be advise preparing land for corn, cane, beans and other such crops.—A. S. H., Ordway, Colo.

Answer: In order to neutralize the force of winds in Eastern Colorado, windbreaks of black locust and other drouth resisting trees are recommended. For spring crops the land should be prepared in the fall. This is done by plowing with the lister, leaving every alternate furrow space unplowed. By doing this the soil is heaped up on the unplowed space between the furrows and the field becomes worked up into a series of ridges and hollows, which not only block the cutting action of the wind, but catch large quantities of snow during the blizzards. The furrows should always be at right angles to the wind. The ridges between the furrows should be plowed out in the spring and the field leveled for planting.

If winter wheat is desired it must be planted in August, early enough to cover the ground before the fall winds commence; otherwise it may blow out; the same with rye.

To prevent corn land blowing in winter use a single horse cultivator and plant rye between the rows about the last of July and plow it under the following May for fertilizer, when the field can then be planted to another crop of corn, or preferably to Sudan grass or sorghum cane.

Sandy soil should be plowed deeply if it needs it. A seedbed twelve or fourteen inches deep has more soil and will raise more stuff than one ten inches deep, and a seedbed ten inches deep, more than one six or seven inches deep. The test is to take a pointed stick, press it in, and see how far it will go down. If your soil is naturally so loose that you can press the stick into it 10 or 12 inches it needs very little plowing, but such soils are very rare.

Deep plowing allows the roots to get down quickly out of the drouth and mulches the sub soil, keeping it in a moist condition for the roots to enter. When the sub soil is right the roots may go down from four to ten feet and the result is a bumper crop.

If you plow in the fall for spring crops and in the spring for fall crops, you will find that deep plowing is never a failure.

Deep plowing at the last minute is never recommended in dry farming, but such work will produce big results the following season.

On a farm which had been worked for years at a depth of four to six inches, an acre was plowed 10 inches deep in May and planted to corn. The yield was only a bushel or two above the ordinary yield of 15 bushels but the following year it produced 29 bushels and was the best acre on the farm for five years, altho no more deep plowing was done.—E. R. Parsons.

A Citizenship Question

I am an Englishman by birth, but took out my naturalization papers in this country several years ago. What is my status regarding conscription in England? I am over the draft age in the United States but not over the age in Great Britain.—X. Y. Z., Colorado.

If you took out your first papers more than seven years ago they are outlawed and you will have to start again. Being an Englishman and not an alien enemy, you can start again by appearing in the district court in the district where you are located and take out new first papers, wait two years, and then take out your final papers. You can complete your naturalization now if your first papers are not more than seven years old.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver, Colo.

Alfalfa and Ground Water

Is it safe to grow alfalfa on land that has an underflow where the water table comes to within four or five feet of the surface?—C. F. T., Lincoln County, Colo.

In their natural states the typical soils of the arid region are characterized by the depth to water and their looseness and dryness. The diversion and use of large quantities of water in irrigation soon change some of these natural conditions. A part of the flow in earthen channels escapes by seepage and still larger quantities percolate into the subsoil from heavy surface irrigations. The waste water from these and other sources collects in time at the lower levels and raises the ground water level. Usually this rise is noticed first in wells, a permanent rise of five feet a year being not uncommon. This rise of the ground water is an advantage, provided the water table does not rise too high. It lessens greatly the cost of sinking wells, less water is needed in irrigation, and it furnishes a reservoir from which water can be pumped to supply other lands. It is not until the water level encroaches upon the feeding zone of valuable plants that its injurious effects are felt by the farmer. Its near approach to the surface may prove so disastrous that its upward trend should be noted with the greatest care. * * * There is some difference of opinion as to what depth below the surface marks the danger line for alfalfa. It has been shown by Dr. Loughridge, of the University of California, and by other soil physicists, that water may be withdrawn by capillarity from soils to depths varying from 4 to nearly 5 feet, depending upon the character of the soil. This fact has an important bearing on the subject, because when the ground water is brought to the surface and evaporated the salts held in solution are deposited at or near the surface. If these salts contain much sodium sulphate, or even sodium chloride, all of which are usually grouped under the common term alkali, the crust formed by them will, in time, destroy the alfalfa. It may be stated therefore that when alkali is present in harmful quantities in the ground water it should not be allowed to rise nearer than four feet below the surface. * * *

In soils free from alkali but saturated with water there is not the same necessity for holding the ground water continuously below the so-called danger line. In parts of Kern county, California, the ground water sinks to eight feet below the surface of alfalfa fields in summer, but rises to within one and one-half feet of the surface in winter. There is no indication of root rot and the plants have retained their full vigor. Numerous cases might be cited to show that the rise of water to within a foot or two of the surface for comparatively short periods of time does little injury to the plants. On the other hand, wherever water stands continuously during the irrigation season within a few feet of the surface, it is pretty certain to kill alfalfa in three years or less.—Samuel Fortier, Chief, Irrigation Investigations, U. S. Department of Agriculture.

Trespass or Ejectment

A. filed on a homestead and sold his relinquishment to B. The latter made filing and received notice of allowance. A. worked some distance from home and asked a neighbor to move his family from the homestead to town where he has rented a house. His wife refuses to be moved. Can she hold the homestead on which her husband filed? What must B. do in order to get possession?—C. H., Bent County, Colo.

B. has the right to file on the land. As I understand it the wife cannot hold the homestead here for her husband. B.'s action against A.'s wife, after he has filed on the land, would be for trespass or ejectment.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver, Colo.

We must conquer the whims of our own appetites before we can hope to conquer the German menace.

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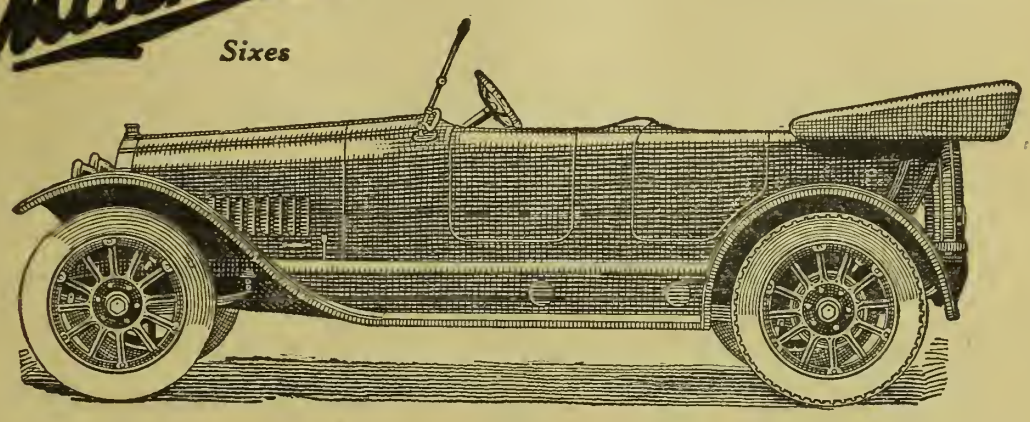

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Get Ready For Fall Wheat

Last year Colorado produced 13,500,000 bushels of wheat. This was enough to supply all of the people of the state, all the soldiers we had in France, and half a million of allied troops. This year, we should increase this amount fifty per cent, or enough to feed an additional million soldiers after supplying our own wants. This is figuring a normal consumption. Whatever of substitutes we use, will increase our surplus by an equal amount.

If all the farmers and ranchmen in Colorado will increase the wheat crop by an average of eight acres each, and secure a normal yield, the state will be able to furnish wheat bread to feed all the soldiers the country expects to send to Europe next year, and make money at the same time. We have more than ten times the land suitable for the increase in crops, now lying idle. When these figures are considered we must conclude that we have not begun to exert ourselves yet, and that any talk about self sacrifice is calculated only to produce a grim of disdain for the lord of autocracy across the pond. Let us wake up. All we need is the right spirit!—E. M. Ammons.

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War Savings Stamp Pledge

The hours from two to four of the afternoon of June 28th of this year will, without doubt, be two of the most important hours in American history. At that time our citizens will congregate in the various school houses of this land under the call of President Wilson and will consecrate themselves anew to the cause of democracy and freedom by individually pledging to save a certain amount of their income each month and to invest their savings in War Savings Stamps. This date will be officially known as "National War Savings Day." It is the intention to secure savings pledges sufficient in those two hours to complete the national quota on the War Savings campaign. The original amount to be raised was two billion dollars. About one-half billion has been raised. The national quota has been distributed among the states and by them to the counties and on down to the smallest political sub-division.

The campaign for this pledge from American citizens will be different from preceding campaigns. In preceding campaigns pledges were secured from our people to purchase or to give. In this campaign pledges will be secured to save and purchase. Saving is the essential feature of the plan. To get each person in America to establish a margin between what is earned and what is spent and to invest that margin in War Savings Stamps. It will not be proper to go to the bank and borrow sufficient funds with which to purchase stamps; the price must be secured thru saving. By reason of this 2 p. m. June 28th will be the time when America, as a people, will, under the auspices of the war, the surroundings of assemblages and the authority of her government, pledge herself to become a nation of thrift thru individual monthly, systematic saving and prudent investment.

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Our Dark Bean Secrets

Referring to a recent article in Western Farm Life on the subject of pinto beans, Michigan Business Farming has the following comment:

"No secret is made in this article, or other articles coming to our attention, that the assistance rendered by the Bean Division (of the U. S. Food administration) in bringing pinto beans before the eyes of eastern buyers has been for the purpose of creating a permanent demand for the crop. It is for this reason that the injury inflicted upon the pea bean industry this year may be felt for years to come, and despite the superiority of the navy over the pinto, the effect may never be entirely removed. Michigan Business Farming is trying to secure additional information upon the pinto bean deal from western sources. We are firmly convinced that there is much yet to tell of which the public has no inkling, and which should properly be made public knowledge."

For the benefit of Michigan Business Farming we wish to say that the statement is true—no secret is made by the pinto bean growers or the farm press of the West, that the work done by the food administration in popularibing the pinto bean undoubtedly will have a permanent effect. It is true, also, that "there is much yet to tell," and that we are withholding some of our darkest pinto bean secrets from the Michigan fellows. One of these dark secrets is the mystery of how the pinto bean came to be spotted. "Pinto" Smith, County Agent of Las Animas county, is said to be in possession of this secret, but as he will not even tell us, it would be useless for the Michigan editor to try to find out. These Michigan fellows don't know us out here in the felt hat country, where every bean grower carries a couple of six shooters—for beans. Any eastern editor who comes prowling around out here looking for secrets is liable to get hit with bean shot.

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Hog Cholera Prevention

The death rate in swine from all diseases for the year ending March, 1918, announced by the United States Department of Agriculture as 42.1 per 1,000, is the lowest in thirty-five years, according to the records kept during that period.

This unprecedentedly low rate of mortality presents a great contrast with those of earlier periods, particularly with the losses of 133.8 per 1,000 in 1887, 144 per 1,000 in 1897, and 118.9 per 1,000 in 1914, years marked by severe outbreaks of hog cholera. This is even a remarkable reduction from the normal low rate of losses which has remained slightly above 50 per 1,000 when the disease was least prevalent.

The moral is: keep up the good work of sanitation and vaccination. This is no time to take chances or hog cholera. If farmers hadn't, to a large extent, quit taking chances, there wouldn't be enough hogs left in the country today to make a report on.

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Changing Indian Names

The wonderful gorge in southern Utah known as Mukuntuweap, which some time ago was designated as a National Monument has now, by executive order, been re-named Zion National Monument. We are told in an official bulletin issued by the Department of the Interior that this is a welcome change, because "the old name, besides being hard to pronounce and remember, was obscure in origin and was never used except officially."

This is a poor argument in favor of dropping a really picturesque name that harks back to pre-Mormon days and is taken from the language of the aboriginal inhabitants of the region. It is a pity to forget such names. As for the difficulty of pronunciation, we have a name in Colorado that is equally difficult, but who would think of changing the name of the Uncompahgre?

Indian nomenclature has a fascination that is intensified when it attaches itself to such natural wonders as the colossal cleft in the earth, hitherto known as Mukuntuweap canon. What if we moderns do not know what the word means. We may rest assured that the Indians who named it selected an appropriate term. The children of the southwestern deserts understood nature's moods better than we, and they possessed a language rich in imagery (if poor in words), thru which they gave expression to ideas where the white man often feebly expresses only associations.

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The High Cost of Farming

As a general average for the whole country, the increase in the rate of wages per month with board in 1917 over 1916 was 24.2 per cent. The increase over 1910 was 50.3 per cent. In the average rate of wages for harvest labor with board, the increase in 1917 over 1916 was 23.1 per cent; without board, 22.7 per cent. For day labor outside of harvest, farmers paid 23.8 per cent more with board and 24.7 per cent more without board. The general fact is that the rates of wages for farm labor increased almost one-quarter in one year and about two-fifths to one-half in seven years.

Farmers found a trying situation in 1917, when their needs for farm labor increased and the supply of labor diminished, with accompanying advance of wage rates over those of 1916, averaging 24.2 per cent for all classes of rates. During the same time the prices paid by them for 94 articles of common use on the farm, by the family, and in the household increased 30 per cent.

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Alfalfa Makes Poor Silage

Many farmers have sought to make silage from alfalfa. The experience of this and other experiment stations, as well as of farmers, have shown that when alfalfa is put into the silo it will make a very good feed, if used within a few months after it is siloed, but beyond this limit it deteriorates very rapidly in quality. It takes on a very offensive odor and is not relished by livestock.

The presence of acid is necessary in making silage. Lactic acid, the principal acid in sour milk, is the acid present in the greatest amount and is the most important acid in preserving silage. The acids are produced by the action of bacteria upon the sugars and other carbohydrate materials in the plants used for silage. Such plants as corn and sorghums make the very best quality of silage because they contain sufficient fermentable material to produce the amount of acid necessary to preserve silage. Sweet sorghum contains an abundance of sugar, and when cut at a certain stage of maturity and siloed, it develops so much acid that the silage is too sour to be highly relished by stock.

When a legume like cowpeas is siloed alone, a poor quality of silage is made, but when cowpeas are siloed with some other crop, such as corn, a first class silage is produced.

Judging from the chemical composition of alfalfa and other legumes it does not appear that there is a shortage of carbohydrate material in these plants. It is possible, however, that a portion of the carbohydrates that they contain are not in form to be available for the bacteria which produce lactic acid. As a consequence the bacteria may attack the protein instead, and produce products which are undesirable in silage making. In preliminary experiments carried on with the chemistry department of this station it was found that the addition of materials such as molasses, cornchop and other supplements containing a high percentage of carbohydrate material, was effective in preserving the alfalfa as silage.—From Bulletin 217, Kansas Agricultural Experiment Station, by O. E. Reed and J. B. Fitch.

The Branding Iron

Applied by Elias M. Ammons

The unexplainable low price of hides and the unprecedented high cost of shoes and all leather goods should be given a searching investigation by the authorities at Washington. If the true basis of prices is the cost of production there can be no reason from natural causes for the very low price of hides. It never did cost as much to produce them as it does now, while the increase in the price of all manufactured goods is entirely out of proportion to the increase in wages. There is a "nigger in the wood pile" somewhere, and he should be properly sought out and conscripted for a better purpose than profiteering during the war at the expense of one of our greatest necessities.

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The President's order to compel all able-bodied men to be usefully employed, is along the right line. If our boys are conscripted into the army to face all the danger and hardships at low wages it is nothing more than just to compel those at home, in comfort and on high pay, to grow the food and other supplies for the soldiers at the front.

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The best way to increase the cattle supply is to raise more feed and provide more shelter. The second is just as important as the first. More shelter means less feed, less loss, a greater calf crop and better results. Feed can be grown in but one season, and must depend largely upon rainfall and other climatic conditions. Shelter can be built any time in the year, is comparatively inexpensive and should be furnished on every ranch.

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The food administration has fixed a limit of 25 pounds of sugar for canning purposes; this ruling will make the drying of fruits imperative, if we are to lay in a winter supply.

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Mrs. Frances Belford has resigned from the State Board of Agriculture, because she must be away from the state a large part of the time and cannot, therefore, attend to the duties of the office. Mrs. Belford has been one of the ablest and most active women of the state thruout its history. Her husband, Judge James B. Belford, was Colorado's first congressman, and Mrs. Belford has been a leader in equal suffrage and other movements in which women were especially interested. Mr. John Calkins, a graduate of the Agricultural College, and a former member of the board and executive committee, has been appointed to the vacancy. Mr. Calkins made a splendid record during his previous membership. He takes great interest in the work of the institution, and with his past experience will bring strength to the board and its important work.

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Colorado can easily produce twice as much fall wheat and rye as it is now growing. To accomplish such an increase next year, work should begin at once. Almost every farmer can plant more acres than he has grown in the past, and there never was a time when it was more needed or would do as much good as at the present time. Every farmer and ranchman should redouble his efforts to seed a large acreage this fall.

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To show how farmers of the United States are meeting the shortage of farm help a field agent of the Bureau of Crop Estimates in a recent report told of seeing a farmer in Indiana driving a team of six horses hitched to a disc plow and leading three horses drawing a harrow. He was working nine horses and two modern farming implements, and doing the work of several men and teams under the old system of farming.

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Grow an acre of wheat to feed half a dozen soldiers in France to whip the Huns.

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Save a calf and raise a steer to feed three soldiers to catch the Kaiser.

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Stand behind the boys at the front—but not too far behind.

Comment by Farmer Putnam

OUR HORSE SENSE FRIEND INTERVIEWS A HORSE ON THE SUBJECT OF EATING HORSE MEAT

SOMETHIN'S got to be done about this hoss meat business or them fellers that's fur it will win the argymint. I got a few letters and all of 'em sides in with Doc. Glover and nobody ag'in him, so what I went and done was to go right to headquarters and git a talk with one of the hosses on the ranch. That ought to settle it. Before givin' the hosses' side of it I'm goin' to print some of the letters. One was from a ranchman who sez he's tasted hoss meat and while he don't like it, he thinks it's good enough fur them that cain't afford to buy beef, pork or mutton. Here's what he sez:

"Referring to your opposition to the use of horse meat. Have YOU ever tasted it? If you had you wouldn't worry about the effect on the meat situation. No one who can buy beef will use horse meat. At the same time it is much better than going without flesh of any kind. Let it come on the market by all means for the poorer classes that would otherwise be under nourished. Also, a horse is tough and flavorless till after his eighth year, so the thirty-five dollar plug is the kind the horse butcher wants. The present system of working a horse till he dies of age and bad teeth is less human than the disposal Dr. Glover suggests. Hundreds of tons of horse meat are wanted annually. A lot of it could have been consumed by poor people, and much of the rest should have been fed to hens. Think what it would mean to remove these miserable eight dollar plugs from our farms and cities. Why it would again become profitable to raise colts. Let that console the stockmen. Our present treatment of old horses is both inhuman and an economic waste."—A Friend of the Horse.

I beg to differ with Farmer Putnam about the "only kind of horses that will be cheaper than beef is the kind the junk dealer drives up Doc. Glover's alley a-yellin' "Olt iryun." There are thousands of good, healthy horses running on the open range at the present time, which are too small for work animals and too awkward and chunky for saddle use, and have no market. These animals will make excellent meat and nothing else. Could be sold for much less than cattle and still bring returns to the owner and would leave the grass they are now eating for cattle and desirable horses. A T-bone steak from a nice young horse (and they are all young in the horse meat shops), is simply delicious—a trifle sweeter and much more tender than the same cut of beef. It could be bought with French fried potatoes, coffee and bread and butter for 35 cents. What would be the price of a T-bone beef steak with French fried potatoes, etc?. Go into any cafe and order one.—J. R. Davis, Badwater, Wyo. (The M. O. Ranch, Percherons, Shires and Polled Herefords.)

Here's what Doc. Glover sez ag'in: An old lawyer had a son who had just been admitted to the bar. The young man says: "Dad, if I am arguing a case before the jury and I have justice on my side, but the law is against me, what shall I do? Says the father: "Talk justice, my son." But, says the young man, "presuming I have law on my side but justice is against me, what shall I do?" "Uphold the majesty of the law, my son." But, says the young man, suppose law and justice are both against me." "Well," says the old man, just talk around it."

Farmer Putnam is just talking around the main issue. I am not arguing for a law that will compel you or I or any one else to eat horse meat, but simply an opportunity for those to eat it who, from choice of necessity, want it. This is a privilege which I claim we can not with justice deny any one. All those who have eaten horse meat testify that they were surprised to find that it had an excellent flavor and was in no way objectionable. I predict that all of the negative arguments for the use of horse meat, which will come to your notice, will be based on the one absurd proposition, that if Glover or any one else wants to eat horse meat, let them eat it but I don't want it—so there! This will constitute the only argument, save, of course, the selfish one which actuates and which will be kept out of sight, and that is the competition of this product with beef, pork and mutton.—Geo. H. Glover.

After readin' them letters I decided to go right to headquarters and git my information about hoss meat from a hoss, so I went down to the corral and called up Ned with a piece of sugar and sez to him, confidential like:

"Ned, some of them professors is talkin' about us eatin' hoss meat, because they claim they hain't enough beef, pork and mutton in the world and that a lot of good hoss meat goes to waste. Now I don't want to git too pussonel, but if you don't mind I'd like to put down what you have to say about it. You bein' the party most concerned ought to be consulted in the matter. What do you say, Ned?

Well, Old Ned winnied and laughed and after takin' a bite of sugar said:

"Oh, Mr. Putnam, I don't know just what to say; I ain't used to bein' interviewed, but if it was only a question of which is the best tastin' meat I'd say Glover is right."

"Glover, what do you know about Glover and what he said?"

"Shucks there ain't a hoss in the state of Colorado that don't know Glover by reputation. He's done more good to the hoss kingdom then any other human. The other day one of the colts was chewin' up a copy of Western Farm Life and I happened to see a headline about what Glover wrote on hoss meat so naturally, bein' a friend of the Doctor. I read it. The subject ain't new to me. We been discussin' it here in the barn and, as I say, if it comes to palatability and healthfulness you got to give it to us hosses over all other animals, but that ain't everything. I wisht Glover was here, I'd like to ask him just one question. I hate to say he's wrong, but he is off on this subject. I'd ask him just this: How would you like to eat your pet dog Doctor, the dog that's been your faithful friend and companion; that's guarded your home at night and kept the neighbor's chickens out of your yard by day, or that's gone with you on many a hunting trip? Would you want to eat that dog if his meat was good to eat? Not on your life.

Now, Doctor, I'd say next, what's the difference in that respect between your dog and your hoss? Isn't a hoss as faithful a friend of man as his dog and a far more useful one? Do you mean to tell me that you could take your family hoss out behind the barn, put a bullet in his eye, skin him and cut up the meat fur steaks and roasts and eat it? Why it's cannibalism. Do you know why people don't want to eat hoss meat? Because the hoss is too highly developed mentally to be butchered like a common cow. You know enough about hosses to know that they have intelligence. Did you ever hear of or see Jim Key, the hoss that kin spell and count and add and subtract? Do you know how that's done?

Maybe not, but I'm goin' to tell you Doc. and it's somethin' I reckon they don't teach in them Vet. colleges. The trained dogs and hosses that gives them wonderful exhibitions is controlled by the minds of their masters.

Now, if a animal has got enough mentallty to do what his master commands without speakin' a word out loud I'm thinkin' that the thing for Vets to do is to learn somethin' about this here brain we hosses has got and not be advocatin' that the people

Turn to Page 11

Facing A Big Question

THE success of any business enterprise, either private or public, is dependent upon two prime factors: First, it must fully serve the purpose for which it was established. Second, it must produce adequate revenues.

To be sufficient, the revenues must cover all the necessary expenses attendant upon the conduct of the business; they must cover the cost of upkeep of the property and must provide a reasonable return upon the capital invested.

Any returns less than this will impair the usefulness of the enterprise from the standpoint of its relation to the public, destroy its credit and finally the end must be financial disaster.

Since the beginning of the war decided economic changes have taken place. Prices of commodities have increased to meet the increased cost of their production. Labor has been forced to charge more for its services in order to adjust itself to the constantly rising costs of life's necessities.

So adjustments and readjustments of prices are being made to meet the conditions growing out of the war.

The telephone business is governed by the same economic principles and is subject to the same conditions that influence private business—except that its charges for service cannot be raised or lowered overnight, like the price of sugar, to correspond with fluctuating costs. So that, while the costs of labor and material entering into the operation and maintenance of our plant and business have increased tremendously, our revenues have remained practically unchanged.

This condition has resulted in a deficit of approximately a million and a half dollars at the end of 1917.

The big question which we are facing is to wipe out this deficit in order to maintain the plant at a point of high service efficiency and to maintain the financial integrity of the company.

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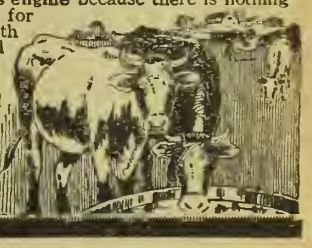

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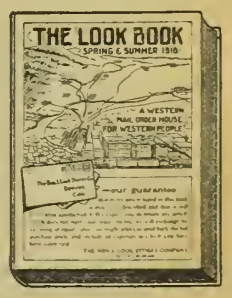

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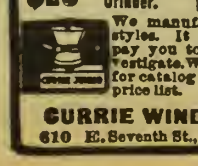

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Shall We Sell Our Dairy Cows?

From different sections of the state we are getting information that dairymen are once more thinking of selling their cows. The drop in price of butter fat, combined with the fact that milk can be produced in most irrigated sections at a very little lower cost now than in winter, is causing some dairymen to doubt the advisability of staying with the business.

I am not going to hold out the hope of immediate higher prices, altho it is reasonable to expect that prices will get better later on in the summer. Part of our bad milk condition is due to the fact that last year it appeared necessary to curtail consumption of dairy products in order to insure our not facing a shortage of butter fat. We have come into this season with an unusual surplus of milk and butter fat and, consequently, the advice for the entire country, both from the Food Administration and all food authorities, is to use dairy products liberally. While the results of this propaganda will appear slowly, nevertheless, they must appear in time.

But taking even a gloomy view of the situation and supposing that prices do not grow better during the summer, it seems to me that we are not justified in closing out entire herds of dairy cows. If some particular farmer is facing a severe loss from his milking operations, he can afford to weed out the poorest of his cows, give the others a better chance, and he may in the end produce very nearly as much milk as he did with his original herd; but for a farmer who has been in the dairy business for some years to quit the business now, puts him on a par with a factory owner who might say that the government could not have the use of his factory for munitions making or the production of aeroplanes. Every farm in Colorado is just as much a production plant for the forwarding of the war as any manufacturing plant in the east.

I presume nearly every farmer in this state has criticised the shipbuilders who went on strike at different times, and still some of us are figuring on going on strike with regard to the dairy game and saying that we will not continue because conditions do not suit us. I cannot see that the situation facing the dairy farmer of Colorado is any different from that facing the shipbuilding carpenters. They saw the necessities of life raising in value every day, with their earning power failing to keep pace, so that every day saw a lessening of their profit, or a greater diffculty in maintaining their families with the same wage. They took the way out which probably seemed the only way to them but which seemed unpatriotic to us, the way of refusing to work.

We see profits on milk production going down with the price of butter fat. We do not see any immediate way to remedy it except by going from dairying to some other form of crop production where we can make greater profits. If any considerable percentage of dairy producers take that attitude, the milk production of the country will be so lessened that the cry of unpatriotism will be raised against dairy farmers just as it was raised against the ship carpenters, and the American dairyman will be listed in the same class with the Prussian Junker, or wealthy land owner of Germany, who is going after the greatest profit for himself regardless of the needs of his country.

I am sure that the state of mind which is affecting those desiring to sell is one resulting from failure to look at the broader aspects of the situation. I do not think the people of the country, as a whole, expect any farmer to ruin himself by the production of food stuffs at a great loss, or at any loss at all, figuring in his entire farm operations. A farmer is entitled to a reasonable profit, and farmers as a whole, are making money at present. Some, of course, are not, but some farmers would fail to make money no matter what the price of farm products is. There is always a percentage of farmers who have a struggle, either because of a poor farm, poor farming, or poor markets, the latter term, of course, including difficulty of transportation to market. Conditions never can be made so that everybody in a given line of business can make a profit, or those who are most expert in that line of business would make a profit beyond all reason. If we grant then that farmers as a whole are making good profits and that general farming with dairying in connection is returning a reasonable profit, I cannot believe that the farm dairyman has a right to dispose of his cows, and then in turn sell his crops from the farm solely for the purpose of making a greater profit during war time.

Let us face the issue squarely, that we are now in the most serious war and most dangerous from the standpoint of the welfare of the entire world, in which the country has ever taken part. Possibly the sinking of vessels close by our own shores may bring the real gravity of the situation closer home. The dairyman is an absolutely indispensable part of the production scheme, and every individual dairyman who falls down on his part must stand responsible for the shortage of dairy products which is likely to result from a general selling of cows. One cannot go out of the dairy business today and go back in again tomorrow with as large a production, if his cows are above the average. The dairy business is one which a man must take up as an integral part of his farm products, and temporarily low markets should not discourage him. The dairy cow has been probably a greater factor than any other class of livestock in building up the fertility of farms over America. She will continue to build the fertility of your farm, even if you make no direct profit on her products. You will, therefore, continue to get a profit from her out of the greater crop of wheat, corn or beets, and can afford to produce milk for the next few months without much profit, if the market does not grow better.

I hope every dairyman who reads this will make himself a committee of one to talk hopefulness for the dairy industry instead of gloom, and talk dairying as a means of patriotism, if nothing else. The country will continue to need milk and butter fat. Suppose you and I make it a part of our job to produce some of that milk. It isn't quite equal to enlisting, after all. —G. E. Morton.

Before the war we were exporting two to three million pounds of beef monthly. After the European war began there was an increase of 23 million pounds per month. Now, we are exporting 130 million pounds of beef per month and with the continuation of conservation and production there is no reason for anticipating other than a continuation of this vital program.

Yes, they are holding the line, but the folks back home must bring up the reserves.

Plant an acre for the shell-hounded farmers of "No Man's Land."

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has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load

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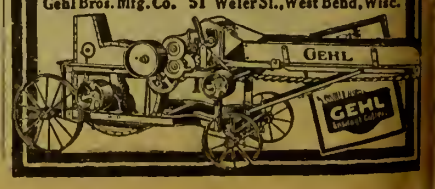

Boulder County Cows Tested

Twelve dairy herds in Boulder county are being submitted to the acid test of production and cost thru the Boulder County Cow Testing association, which, on May 1, finished the first year of its work. Nine of these herds were in the association the full year. The following table from the Boulder County Farmers' Exchange Bulletin gives the record of these nine herds:

Owner	No. Cows	Breed	Lbs. Milk	Lbs. Fat
M. Harper	4	Holstein	12,335	424
Henry Maris	9	H. Jersey	6,083	312
Ted Hixson	13	S. H.	6,124	308
H. S. Andrew	9	Mixed	6,473	301
F. S. Luethi	4	S. H. Jersey	6,318	294
A. W. Gilliam	13	H. Jersey	5,831	269
A. Sayer	9	H. Jersey	6,116	257
E. S. Bent	9	Mixed	5,858	261
E. C. Mason	14	Jersey	4,419	229

The eighty-four cows comprising these nine herds produced an average of 6,617 pounds of milk and 295 pounds of fat during the year. M. Harper, with four cows in the test, had the high yield of both fat and milk and his cows also produced the greatest profit per cow above the cost of feed, this being $122.38 per head. E. S. Bent had the record of producing milk and fat most economically, the butterfat at 25 cents per pound and milk at $1.03 per cwt. The following table gives the cost of production for the nine herds:

Owner	Value of Products	Cost of Feed	Profit	Cost of Fat	Cost of Milk
Ted Hixson	$191.66	$ 88.93	$103.72	$ .27	$1.50
E. C. Mason	145.64	75.65	89.99	.32	1.87
F. S. Luethi	190.68	102.05	86.32	.35	1.79
E. S. Bent	149.05	60.23	88.53	.25	1.03
M. Harper	283.54	155.03	122.38	.37	1.28
Henry Maris	202.42	96.61	104.76	.31	1.71
A. Sayer	161.57	80.68	79.65	.32	1.35
H. S. Andrew	176.36	103.99	72.39	.33	1.60
A. W. Gilliam	164.44	80.32	83.84	.29	1.41

The average value of the products from the 84 cows on test was $192.46 per cow; average cost of feed $93.27 per cow; and profit $97.04 per cow. The average cost of producing fat was 31 cents and of 100 pounds of milk, $1.05. The association started with thirteen herds, with a total number of cows on record of 193. Three herds were sold on account of high prices of feed and shortage of help. Twenty-six cows were sold as they were found to be "boarders." Three purebred and ten head of purebred cows and heifers were purchased by members during the year.

The members are so well pleased with results that it was decided to continue the work. Officers for the ensuing year were elected as follows: H. S. Andrew, president; A. W. Gilliam, secretary-treasurer; Roy Curtis, tester.

Comment by Farmer Putnam

Continued From Page 9

butcher us fur meat. What do you suppose the hoss family'll come to if we have nuthin' in prospect fur old age except to be put into the soup? As it is now we don't git what we deserve when we git old, but every hoss has a secret hope that his master is goin' to be better to him than anybody ever was to a hoss and when he gits old give him a nice cozy place to graze in, soft feed and warm water to drink, a blanket fur his body and six lumps of sugar and an apple every day.

You're a purty smart man Doc. but you make a common mistake—common to most humans; you think about evolution as applyin' only to the human race. Now in hossdom we has some advanced thinkers that's sure that some day hosses'll learn audible expression of their thoughts. We hosses think, maybe not as much as you do, but we think when we need to, and you humans think because you cain't he'p it. Our system strikes me as bein' the most practical, because we don't have to fight off a lot of useless thoughts. Now, as man advances, his best animal friends, the hoss and the dog, go right along with him, step by step, higher in the scale of mentality. In fact in some things I think we're ahead of you already. You don't see the Percherons engagin' in war with the Shires, or the Belgians do you? We got sense enough not to kill each other. If we ever kill it's done to protect ourselves from some other animal. No, you humans has got a lot to learn and us hosses kin teach you a few things, one of which is that this craze fur lettin' nuthin' go to waste will kill all the sentiment in human natur'. It's a German idea Doc., so don't fall fur it.

Now, Mr. Putnam, you kind-a slip them few remarks to Doc. Glover with my compliments and tell him it hurts us hosses to have such a good friend as he is come out in favor of eatin' hoss flesh. It ain't prejudice ag'in hoss meat, but the human's love fur the faithful hoss that'll keep him from eatin' us, and it would be a shame and a disgrace to human kind to exterminate this sentiment in the interest of efficiency. We seen the result of that kind of a policy in the progress of Germany—yes their progress thru Belgium and part of France—and I don't want to see this great country follerin' their example. Killin' the love of domestic animals outen the human mind is the first step in the wrong direction. I'm gittin' old and useless Mr. Putnam, but when I cain't draw the load anymore I want you to take me out in the paster on the other side of the mountain and shoot me. I ain't lookin' fur no favors, but let the bluejays and the magpies have my carcass; don't you do nuthin' to lower the standards of the human race and the hoss race with it by tryin' to eat my flesh. You might git a nightmare.

I put down them words just like the hoss told 'em to me and I hain't got no further comment to make. I hope this'll end the countervarsy.

THOMAS JEFFERSON PUTNAM.

Red Clover in the Truck Gardeners's Rotation

Continued From Page 3

ing, finished in oak, equipped with a hot water heating system, in fact, containing every improvement that is found in the best class of city homes, and boasting a lawn that cannot be beaten in the city of Denver. The water for domestic use is pumped by electricity from a well 528 feet in depth, the pump having a lift of 242 feet to overcome. Current is cheap at 4 cents per kilowat hour, a high power supply line from the mountains passing the farm.

One of the basement rooms provides space for the asparagus bunching crew or for other work in preparing truck crops for market in their particular season. On the first floor level there is an immense concrete floored porch, sashed and screened, which furnishes a fine dining room for the crews of pickers during the summer. The roof of this porch is arranged for summer outdoor sleeping quarters.

A barn built in keeping with the architectural features of the dwelling and on the same three floor plan, has stall room for the two horses in the basement, with ground level entrance at the rear. The main floor is the garage, housing the auto truck and family touring car, and the loft floor holds hay and grain for the horses. The barn, also, is supplied with running water and electric lights, the same as the dwelling. Accompanying illustrations show the old home and the new, the best evidence that it pays to farm wisely and well.

The surplus of the 1917-18 harvest based on normal consumption was 20,000,000 bushels. Up to the time of the advent of the 1918 harvest, if the present rate of saving by the American people continues, we will be able to deliver abroad 150,000,000 bushels of wheat. By this remarkable effort we will have satisfied the Allies in their most pressing bread needs.

Send our boys the fuel and they will supply the steam.

Production and self-denial are the guns that will get the Huns.

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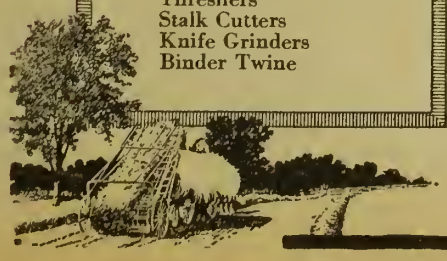

THE American farmer produces more per man than any other farmer in the world. Using labor-saving machines, he produces record crops with less hired help than is required under any other system. Therefore, in the present crisis, with help so scarce, every farmer should use the most efficient farm machines he can get, the only kind that can be depended upon to make the necessary increase in production.

The International Harvester Company of America markets the full line of high-grade machines listed in this advertisement for disking and harrowing seed beds; planting and cultivating crops of all kinds; cutting, making and storing hay; cutting, binding and threshing small grains; harvesting, husking and shelling corn; shredding corn fodder, filling silos, fertilizing fields; skimming cream; and grinding feed. It sells efficient farm power machines, engines and tractors operating on the cheapest fuels a farmer can buy. It provides wagons and motor trucks for all kinds of farm hauling.

Many of these machines have been used by American farmers for close to seventy-five years. They have helped to establish the standing of the American farmer. They are better today, more efficient and more economical than ever before. In many cases, one or another of these machines will solve the hired help and farm power problems on individual farms.

International machines are sold through ninety branch houses and over thirty thousand local dealers. Any customer can place an order, or command the services of this organization, by a telephone call to the dealer, or a visit to the nearest town.

It is important this year that all orders for machines be placed as early as possible, preferably months in advance. See the local dealer, or write us about the machines you are going to need this year, and do it now.

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Glad indeed are we to know that we are finding ourselves busy with the Do of patriotism rather than worrying over the DON'T.

The editor has been busy during the past few weeks trying to answer requests for substitute recipes and giving little home talks and demonstrations in the use of dairy products and providing programs to be carried out in our little and big community circles and Mothers' clubs. The conservation of childhood, by way of organized work for the children in the home, both on the farms and in the cities, is the big worth-while subject for consideration now. Mothers and fathers should be alive to the value of this patriotic effort. Let us spend as much time, energy and money on the care of our babies and youth as upon the breeding and building up of our livestock industry. While Colorado and her sister states are sacrificing to save wheat, meat and sugar that our brave and noble boys may be helped to win the war, let us also plan for the peace and prosperity of the future by saving our quota of babies.

Congratulations to the editor of these columns over the news of her having been elected President of Colorado Congress of Mothers, and Parent-Teacher associations are most heartily appreciated and the work, necessary in this new office will only help to enrich the co-operation of these columns for real home betterment. May we all be truly thankful for this privilege of working together for a better home department in the Western Farm Life.

Patriotic Foods

Doubtless every housewife is considering ways and means for using milk and all forms of dairy products, also is assisting in pushing the program for the use of potatoes. And as all are becoming more positive in their patriotic efforts they are likewise realizing that it is not necessary to limit the use of foods or go without altogether; but to increase the use of the foods which furnish the most nutritive value at the lowest cost of time, labor and money. Is your family using milk as a food as well as a beverage? Foods are taken into the body, first to renew body wastes and to promote growth, and second, to supply energy for carrying on body functions. Milk is a nourishing food because it contains protein and mineral substances which are body-building materials, and also supplies energy.

The following tables compiled by specialists in the U. S. Department of Agriculture show the quantities of various foods needed to supply as much protein or energy as one quart of milk:

Protein—1 quart of milk is equal to 7 ounces of sirlion steak, 6 ounces of round steak, 4.3 eggs, 8.6 ounces of fowl.

Energy—1 quart of milk is equal to 11.3 ounces of sirloin steak, 14.9 ounces of round steak, 9 eggs, 14.5 ounces of fowl.

Another method of comparison is shown by the table below, in which the relative value of certain foods as economical sources of protein is given

Milk at—	Is as cheap as sirloin steak at—	Or eggs at—
7 cts. a qt.	16.3 cts. a lb.	17.6 cts. a doz.
8 cts. a qt.	18.6 cts. a lb.	20.1 cts. a doz.
9 cts. a qt.	21.0 cts. a lb.	22.6 cts. a doz.
10 cts. a qt.	23.3 cts. a lb.	25.1 cts. a doz.
12 cts. a qt.	27.9 cts. a lb.	30.2 cts. a doz.
15 cts. a qt.	34.9 cts. a lb.	37.7 cts. a doz.

The following table shows that cottage cheese is much cheaper than most meats in furnishing protein for the diet.

For supplying protein, one pound of cottage cheese equals:

1.27 pounds sirloin steak.
1.09 pounds round steak.
1.37 pounds chuck rib beef.
1.52 pounds fowl.
1.46 pounds fresh ham.
1.44 pounds smoked ham.
1.58 pounds loin pork chop.
1.31 pounds hind leg of lamb.
1.37 pounds breast of veal.

In addition to protein, energy for performing body work must be furnished by food. As a source of energy also, cottage cheese is cheaper than most meats at present prices. The following table shows the comparison when energy is considered.

On the basis of energy supplied, one pound of cottage cheese equals:

8⅓ ounces sirloin steak.
11¼ ounces round steak.
11¼ ounces chuck rib beef.
10¾ ounces fowl.
5½ ounces fresh ham.
5 ounces smoked ham.
6 ounces loin pork chop.
7⅓ ounces hind leg of lamb.
12¾ ounces breast of veal.

Think of these facts and add to your recipes for the use of cottage cheese, whole milk, sauces, etc. The more intelligent we become concerning these simple but valuable economies, the better we shall take care of our families so far as wholesome and nutritious foods go to form a part of efficient home making.

Canning Chicken

(Louise F. Lacey)

It is often desirable to preserve meat by canning, but whoever works with meat must realize the dangers which may accompany its use. Meats sometimes contain micro-organisms which form in it poisons causing the so-called ptomaine poisoning. To avoid all danger of this, meat must be used when it is fresh or kept at very low temperatures. For canning it is especially important (1) to use meat that is in perfect condition, for while cooking may destroy the bacteria in tainted meat, it does not destroy the poisons already formed by them (2) to have the meat absolutely sterile when the can is closed.

Steps in the process are as follows:

1. Preparation of equipment and utensils:

The canning outfit and all equipment should be ready when the process is begun. All glass jars, after being tested, should, especially if new, be tempered to avoid the danger of breakage when hot liquid is poured into them or when they are placed in hot water. To temper them place in cold water, heat the water to boiling, and boil 10 to 15 minutes. Rubbers should be dipped in boiling water and wiped well to remove the white powdery substance which, if not removed, may give a disagreeable "rubbery" taste to the product.

2. Preparation of material to be canned:

3. Blanching or scalding in sufficient rapidly boiling water to cover. Blanching can best be done in a wire basket or in a square of cheese cloth.

4. Cold dipping or plunging the product into cold water and cooling rapidly.

5. Packing.

Pack product into jars. Add 1 teaspoonful salt to each quart. Fill with hot liquid to within ⅜ inch of the top of the jar.

6. Partial sealing.

Fasten lid loosely on the jar.

7. Processing.

Place the jars of packed food in the canner. Sterilize or process the length of time required. In the hot water bath outfit the jars are placed on the rack with hot water coming up one or two inches above the tops of the jars. The water must be kept boiling during the sterilization period. The jars may be packed closely together.

8. Final sealing.

At the end of the sterilization period the jars must be removed from the canner and completely sealed.

Canning Poultry and Game Birds

Kill fowl and draw at once; wash carefully; cool; allow to stand in cool place 12 to 24 hours. Scald in boiling water and dip at once into cold water. Pack immediately into glass jars or enameled cans; fill with boiling water; add level teaspoonful of salt per quart; put rubbers and caps into position, not tight. Sterilize for the length of time given below for the particular type of outfit used.

Type of Canner	Hours
Water Bath	6
5 pounds steam pressure	2
10 to 15 pounds steam pressure	1

Remove jars, tighten covers; invert to cool, test. Store in cool, dry place.

Another recipe—Kill fowl and draw at once; wash carefully and cool; allow to stand in cool place 12 to 24 hours. Cut into convenient sections. Place in boiling water and boil slowly until meat can be removed from bones; remove from the boiling liquid and remove meat from bones; pack closely into glass jars or enameled cans; fill jars with hot liquid after it has been concentrated one half; add level teaspoonful of salt per quart of meat; put rubbers and caps of jars into position, not tight. Sterilize for the length of time given above for the particular type of outfit used.

Note—The editor is canning fish by the same directions.

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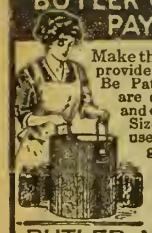

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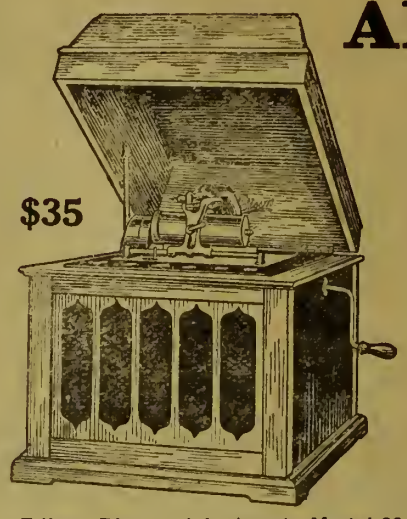

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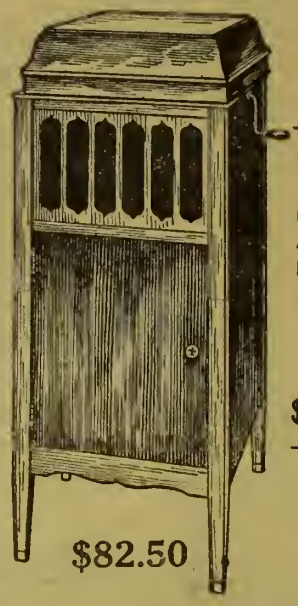
The new Diamond Amberola has been priced with a view to making it possible for every good home to have a genuine Edison.



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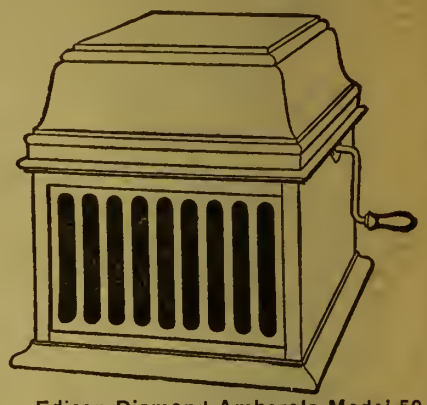

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2432—Pretty Negligee. Cut in sizes Small, Medium, Large and Extra Large (44-46). Requires 6½ yards 36-inch material for medium size. Crepe in any of its pretty colorings, lawn, batiste, silk, satin, voile, dimity or dotted Swiss may be used for this model. The skirt portions are gathered to form a heading over shaped yoke sections, which are cut in one with the sleeves. The neck edge is finished with a deep collar.

2446—New and Practical Apron. Cut in sizes Small, Medium, Large and Extra Large. Requires 4 yards 36inch material for medium size. This design is good for gingham, chambray, lawn, percale, drill, Indian Head, jean and alpaca. The back has belt extensions which hold the fulness at the waistline and are fastened at the centre front.

2430—Simple Model—Easy to Make. Cut in sizes 2, 4, 6 ,8 and 10 years. Requires 4 yards 27-inch material for size 8. Gingham, chambray, lawn, voile, batiste, serge, gabardine, percale, linen and pique are good for this style. The front closing is both comfortable and practical. In wrist length the sleeve is finished with a band cuff. A neatshaped cuff trims the sleeve in short length.

2447—Pretty Dress for the Little Miss. Cut in sizes 2, 4, 6 and 8 years. Requires 2¾ yards 36-inch material for 6 year size. This is lovely for voile, lawn, dimity, crossbar muslin, and crepe. The model may be developed with

the sleeve in wrist or elbow length. A charming effect is gained by slashing the dress as illustrated and inserting a sash or ribbon which is tied in knots at the sides.

In England "His Majesty the King" and the humblest subject have duplicate ration cards.

Raise a freight-saving, year-around, cellar-and-pit garden.

Buy War Savings Stamps.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Chickens On the Farm

"There are a number of reasons why poultry keeping is not as popular on the farm as it should be," writes Mrs. E. W. Mahood in the Rhode Island Red Journal. "In the first place the farmer is mesmerized by the big returns to be obtained from the raising of hogs, cattle and mules, and forgets the much heavier expense involved and the greater length of time it takes to bring in returns from an investment in cattle than from an investment in poultry. For some reason he overlooks the fact that the expense risk and the labor of raising chickens are both much lighter than in raising hogs and cattle or mules, and the fact that he can turn his money over so much oftener does not appeal to him at all.

"Usually the men on the farm leave the poultry raising to the women, who are expected to pay the grocery bills and perhaps buy some of the clothing for themselves and the children out of the proceeds. The housewife herself has plenty to do without spending time trying to raise chickens under adverse circumstances, and the fact that she has to pay out all the money she receives as the result of her labor for necessities, contributes to her general discouragement and lack of interest.

"The farmer himself, as he has not been accustomed to getting eggs from the chickens during the winter months, does not expect any. Hence, he neglects the chickens, tho at this season of the year he has plenty of time to give them all the care they need, and the result is that when spring comes the chickens are poor, covered with vermin, low in vitality, late starting to lay and soon broody. When the birds do lay they are allowed to select their nests at will, and thus many eggs are never gathered at all, but allowed to rot under the barn, in some fence corner, or under a pumpkin vine in the vegetable garden. All this cuts deeply into the profits.

"Again the farmer has been accustomed to raise only scrub chickens, mongrels which are slow of development and low in productivity. Were he to buy as good stock in chicks as he does in cattle, take the same interest in them, give them as comfortable quarters and use the same intelligence in their feed and care, then keep books to show him just what profit he is obtaining, the results would surprise him sufficiently to arouse his interest in chickens.

"No other class of people are so well situated to raise chickens easily and profitably as the farmer. Almost enough waste foodstuff can be made use of to keep one or two hundred hens. There are waste alfalfa and clover from hay loft or hay presser to provide green food in winter, as well as the small turnips and mangels, the potatoes too small for the busy housewife to pare, the apple and potato parings, and the waste from other vegetables. There is always plenty of straw to use for litter, in which the grain should be buried, that the fowl may have the exercise necessary to a healthy condition. There are also all the poorly developed low-grade grains which are usually sold at low prices and which can be fed much more profitably to a flock of purebred chickens. In the summer both old and young birds can pick up the best part of their living in the orchards, hay fields and pastures, where they may find many juicy roots, delectable weed seeds and young green sprouts, as well as tasty bugs and worms."

Hens Become Baldheaded

Please tell me what to do for my hens, several of which have recently become baldheaded. The feathers just back of the comb become thin and finally disappear. They have free range and plenty of feed and I try to keep the houses clean. I have 45 barred rocks, fine large healthy looking hens, and the ones that are bald have bright red combs.—Mrs. N. M., Montrose county.

Usually at this time of year hens are more or less affected as yours are, and we hear more or less said about depluming mites being the cause. We have never been alarmed at this condition, always having more or less of it in the flock, and not paying any attention to it. You will find that the hens will moult back into normal condition later. It will do no harm, and may do a little good to rub the head with lard or vaseline from time to time, but we have never even gone to that trouble. We have had no personal experience with the so-called depluming mites, and suggest that as long as your hens are in good, healthy condition, that you do not feel alarmed. It is no disease, tho if the fowls are eating the feathers from the neck something should be done to remedy conditions. Feather eating is a bad habit and should be stopped, but the trouble as you mention it, is nothing to worry about.

That Prairie Sod Disease

We are hearing again from our people of the Plains sections, that chicks are dying in large numbers of the same old scourge, "foot and face" disease. This is our own term, but it tells the story. Blisters appear on the toes and legs of the chicks, break open and remain open sores. The trouble spreads to the face. Often the toes bend back and usually the chick dies. The Veterinary Department of the State Agricultural College has for several years been trying to get at the cause, and at the present time has some afflicted chicks to work with.

While we know neither cause nor cure, we think we know how to prevent the disease; we have known of this disease for a number of years, have visited many farms where the disease has cleaned out whole flocks of chicks, and have yet to find a single case on cultivated land; always it is the chicks which have the run of prairie sod that have the disease. The only case we have known near Fort Collins is where the chicks have access to a hill that has never been ploughed, so we feel safe in advising that young chicks be kept on land that has been worked.

Dr. Newsom, who is working on this disease, thinks it may be a cactus that causes the disease. Whatever it is, it is something found only in unirrigated districts, so far as we know.

Urgent Demand in Mountain States for Milk Goats

Continued From Page 4

their mother, who holds well to her milk for ten months of the year, and is now giving amost five quarts per day on very ordinary feed. As the milk is very valuable, we introduce into the kids' feed as soon as possible, a very satisfactory milk substitute, known as Calf and Lamb meal.

We teach the kids to drink out of a pan the very first day, and by arranging a simple little feeding place, a person can, with pleasure, feed a lively bunch of kids without getting one's clothes soiled. Goods boxes are made into suitable mangers, and openings are cut in one side for the kids to poke their heads thru.

Little gates are slid down to close these openings until the pans of feed are clamped in place. Then, just watch them drink!

The kids will begin to eat leaves and the finer parts of alfalfa within a week. Kitchen peelings, including banana peelings, are eagerly devoured. Green alfalfa, cut stem and all, is very fine for the milk doe as well as for the kids.

The triplets in the accompanying picture were six weeks old, and at two and one-half months of age weighed 35 pounds each.

For the family in the city or town it is practical to have one, or, preferably, two milk does; one to come fresh in the spring and the other in the fall. Then, too, they are great company for each other. A house to shelter these two little pets may be made as small as six by ten feet; one-half to be partitioned off for manger and sleeping room, and the other half for feed room and milking stand. About a pint of chops is placed at the front of the milking stand and the doe is always eager to get up on the milking stand, which may be made out of a box, 15 inches high, 18 inches wide and 30 inches long, with a stanchion fastened to one end. The manger should have suitable opening cut out so that feed will not get wasted on the floor. If tramped on the floor the feed will never be eaten by these most particular little creatures.

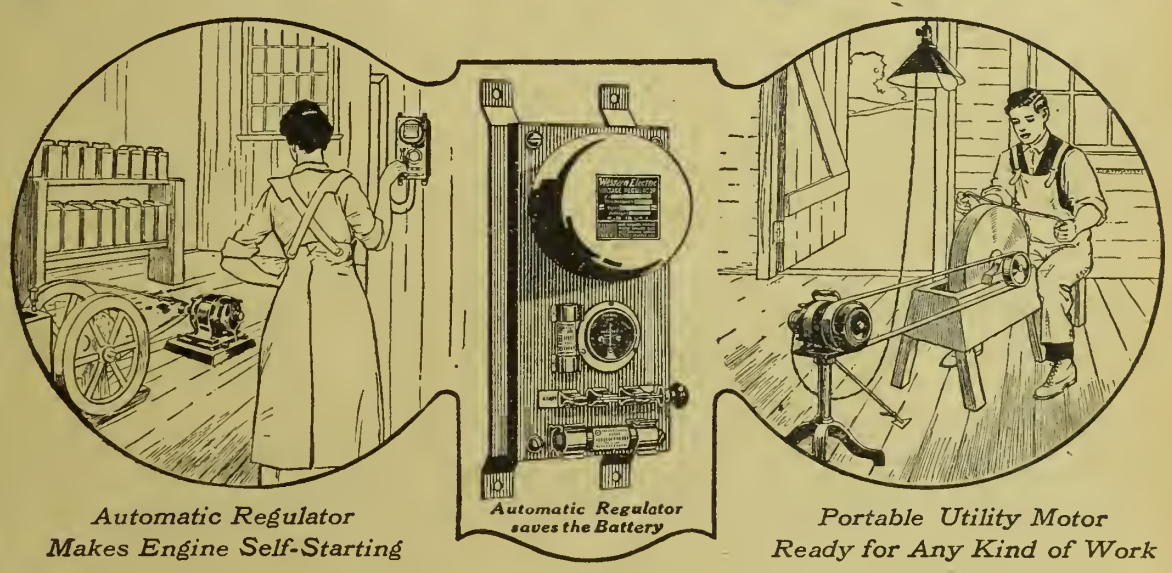
Trees on Property Line

Ans. to G. H., Boulder county:

In planting trees and shrubbery a property owner is expected to keep within his own property line. No distance is fixed by law, but if a tree is planted exactly on the line of two properties it is generally considered that both parties own the tree and each is entitled to one-half the fruit it may bear. A tree planted wholly on your land, tho part of its roots are on another's land, and the limbs overhang his property, is your tree and you are the owner of the fruit it bears and you may enter your neighbors property to pick this fruit if necessary, or pick up any fruit that may fall upon your neighbor's property.

Ask no rest; we have a Victory to win.

Western Electric
POWER and LIGHT



Automatic Regulator Makes Engine Self-Starting

Portable Utility Motor Ready for Any Kind of Work

THE *automatic regulator* device on Western Electric Power and Light is found on no other electrical plant. This exclusive feature places this outfit in a class by itself.

This wonderful little device simplifies the making of electricity and represents an entirely new method of charging a storage battery.

It removes the human element and the chance of overcharging the battery; thus insuring longer life to this—the most delicate part of every lighting system.

It does away with the complicated switchboard and makes this plant unequalled in simplicity of starting and operating.

Uses Any Engine

And, best of all, this Western Electric plant will operate successfully with any kind of an engine. If you already have one you can use it with this outfit.

Let us tell you about this plant, and how easy you can get electricity on your farm. Mail the coupon for Booklet.

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INCORPORATED

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41-43 Third South St., Salt Lake City, Utah
814 Spruce St., St. Louis, Mo.

WESTERN ELECTRIC COMPANY, Inc.
Please send me your Power and Light Booklet No. WFL-6
Name _____
P. O. Address _____
County _____ State _____

Farmers' and Stockmens' Exchange

Advertisements will be inserted in this department for 5c per word; four or more insertions, 4c a word each insertion. Remittances can be made by postoffice money order or personal check. Advertisements are set in uniform style, no display type or illustrations admitted under any circumstances. Every figure and initial counts as one word. Guaranteed circulation over 50,000 copies each issue. WESTERN FARM LIFE is issued semi-monthly the first and fifteenth of each month. Advertising copy for this department must reach us ten days before date of issue. It carries the most classified advertising because it gives you best results. Send us in a trial advertisement. Write for proof showing how these columns pay advertisers.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

LEGHORNS

SINGLE COMB WHITE LEGHORN EGGS, $5 per 100. Barron strain. Satisfaction guaranteed. Frank C. Sutton, Inavale, Nebr.

PLYMOUTH ROCKS

BARRED PLYMOUTH ROCKS — EGGS FOR hatching from four selected pens, both matings and range flock. Incubator eggs, $5.00 per 100. Send for mailing list. Chester Blunt, Route 1, Greeley, Colo.

WORLD'S EGG RECORD—WHITE ROCKS that hold the world's record, at North American contest, for all Rocks of 1,072 eggs, and the world's best average for Rocks for two years, which totaled 2,034 eggs, or 203½ eggs per year for each of ten hens. Eggs from sisters and cousins of above at 25 cents each. Kendrick Pheasantries, 241 Coronado bldg., Denver, Colo. Send for price list of pheasant eggs.

ORPINGTONS

S. C. WHITE ORPINGTON EGGS $2.00 FOR 15; $6.00 per 100. Mrs. R. Roaenberger, Sterling. Colo.

WYANDOTTES

PUREBRED GOLDEN WYANDOTTE EGGS, per setting $1.50 and $2.00; for incubator pen 2 and 3, $6 per 100. Mrs. Ella Beyl, Nevada, Mo.

RHODE ISLAND REDS

ROSE COMB REDS, WINNING, LAYING strain. Egga, baby chicks, breeding stock. Write your wants. E. A. Miller, Alma, Nebr.

FANCY ROSE COMB RED CHICKS. DEEP red, from Hoganized hens. The kind that live, lay and pay. $25.00 per bundred. Live delivery. We ship. J. Smith, 6139 W 38th ave., Wheatridge, Colo.

SEVEN GRAND PENS ROSE COMB REDS, headed by roosters costing $15.00 to $50.00. 15 eggs $3.00; 30 eggs $5.00; 50 egga $8.00. Special utility eggs $7.50 per 100. Baby chicks. Catalog. W. R. Huston, Americus, Kan.

ANCONAS

ANCONAS—THE MORTGAGE LIFTER EGGS, cheap. W. Mustain, Bolivar. Mo.

BRAHMAS

LIGHT BRAHMA EGGS; 15 for $1.25. FREE paid. Geo Gunther, Rt. No. 1, O'Neal, Ark.

DUCKS

ROUEN DUCK EGGS, $1.50 PER SETTING. James Cassell. Fremont. Neb.

EGGS

PHEASANT EGGS—RINGNECK, PER DOZEN, $3.50; two dozen, $6.25. Golden, per dozen, $6. Mrs. Iver Christenson, Jamestown, Kas.

BABY CHICKS

BABY CHICKS THAT LIVE. THE REAL Rhode Island Reds and Brown Leghorns. Price, 18c apiece or $16.00 per hundred. Will aell a few dozen of my "Lay More" atrain of Barred Rocks from the same strain that won the blue ribbon at the Denver Stock Show at 30c apiece. J. R. Anderson, Ft. Morgan, Colo.

COLUMBIA HATCHERY. ESTABLISHED 1911, capacity 6,000 weekly. All leading varieties of baby chicka: Reds, Rocks, Leghorns, Orpingtons, Wyandottea, etc. Write for price list and full particulars. Live delivery guaranteed to your express office, and can ship most varieties witbin 7 days. Blue Andaluaian hatching eggs $2.00 per 15. 3437 W. 44th ave., Denver, Colo.

PET STOCK

THOROBRED SCOTCH COLLIE PUPPIES FOR sale. E. L. Martin, Thatcher, Colo.

WEANLINGS, 5 DOES, 1 BUCK, BELGIAN hares, $8.00. Good Stock, will ship. Mountview Rabbitry, 102 S. Newton, Denver, Colo.

COLLIE DOGS, ALL AGES, MATRONS BRED and open atud dogs and puppies. Frank Davis and Sons, Holbrook, Nebr.

SEEDS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

WHITE DENT SEED CORN FOR SALE. CHAS. T. Lewia, Keota, Colo.

DWARF KAFIR SEED, 85 GERMINATION, $3.00 per buahel. Oscar Wilcox, Larned, Kana.

SUDAN SEED — RECLEANED, WELL MAtured, 17½c lb. sack free. C. E. Dieffenbaugh, Talmage, Kas.

RECLEANED RED AND BLACK AMBER CANE seed, $6.50 per hundred pounds. Claude Paddock, Oberlin, Kan.

CHOICE CANE SEED, $2.50 BUSHEL; FANCY Feterita $5.50 per 100. Will ship anywhere. Sacks extra. Farmers' Union, Oronoque, Kan.

FETERITA, $5.50 PER CWT., CANE, SUMAC, Black Amber, $9.50 per cwt.; Sudan grasa, $22.50 per cwt. Germination 87 per cent. Delphos Poultry & Seed House, Delphoa, Kans.

SUDAN GRASS, THE MIDSUMMER DROUTHIresistant stock feed; rapid and heavy growth; equal to alfalfa by Govt. test; 7 lbs. aeed for one acre, $2.85 postpaid; discount for quantity. Wm. Ritchie, Arlington, Calif.

MILLIONS STRONG HARDY PLANTS—LEADing varieties Bermuda Onions and cabbage, postpaid, 100 for 35c, 1,000 for $2.00. Sweet potatoes, tomatoes, peppers, 100 for 75c, 1,000 for $4.00. Not prepaid, 5,000 to 10,000, $3.75 per 1,000. Careful pack and aafe delivery. Price list "War Garden Collection Offer," "How to Grow a War Garden" sent free. Liberty Plant Company, 319 Frost Bldg., San Antonio, Texas.

HELP WANTED

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

AGENTS—SOMETHING NEW IN PORTRAITS and patriotic pictures. Big proposition. Write for catalog. Southern Art Co., Oak Park, Ill.

MEN, WOMEN, 18 OR OVER, WANTED IMMEdiately for U. S. Government war positiona; thousands clerical positions open; $100 month; easy work. Write immediately for list positions. Franklin Institute, Dept. R-172, Rochester, N. Y.

LUMBER

LUMBER, LATH, MILL WORK. GET OUR direct-to-consumer prices before building. Catalog, plan book free. Contractora Lumber Supply Co., 443 Lumber Exchange, Seattle, Wash.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16tb St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo aupplies; develop any size roll films, 10c; print pictures, 3c each and up; mail ordera solicited; kodak and camera catalog mailed free upon request. Mention this paper.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—20 HEAD OF SPRINGING, HIGH grade Holstein cows. Wilson Counts, Haaty, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shortborn breeding cattle. Write John Held, Sterling, Colo.

FOR SALE—15-16 GRADE HOLSTEIN HEIFER calves from best breeding, $30, expreas prepaid. Herbert Taft, Whitewater, Wis.

FOR SALE—85 HEAD DEHORNED MIXED red and white faced yearlinga. 60 head 3 and 4 year old dehorned cowa; springers and calves by side. Ernest Pankake, Deertrail, Colo.

REGISTERED ANGUS BULLS FOR SALE—One carload coming 2-year-old; good back and lines; low down and blocky type; lots of bone; in good condition.—W. H. Pike & Son, Plano, Ia.

CATTLE FOR SALE—WILL SELL 100 HEAD 3-year-old, pure-bred Hereford cows, reasonable, and about 50 bead have had their calves already. Address Owner, Box 35, Hillside, Fremont Co., Colo.

FOR SALE—WE HAVE 6 REGISTERED HEREford bull calves, Anxiety breeding, born August-September, 1917. The good, heavy boned kind, price $125.00. Also four coming two-year-old bulls, aame breeding, price $200.00. J. O. D. Ranch, Aroyo, Colo., on U. P. R. R.

HOGS

BIG TYPE POLAND CHINA PIGS; REGISTered. Barney Bros., Haswell, Colo.

JACKS

FOR SALE—AN EXTRA GOOD HEAVY BONED registered Jack, aeven years old. Price, $600.00. J. O. D. Ranch, Aroya, Colo., on U. P. R. R.

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC JERSEY HOGS—THE BIG BONED, large, prolific type. Young pigs by the Senior Champion boar at the last Denver Show, Orion Cherry King 15th. Did you see our grand champion barrow that sold at 50c per pound? J. O. D. Ranch, Aroya, Colo.

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

WANTED—TO HEAR FROM OWNER OF FARM or unimproved land for aale. O. K. Hawley, Baldwin, Wis.

GOVERNMENT LANDS—CALIFORNIA, OREgon. Booklet-stamps. Joseph Clark, Sacramento, California.

I WANT TO HEAR FROM OWNER OF GOOD ranch or unimproved land for aale. Mrs. W. Booth, Pulaski, Ia.

HOMESTEAD LAND RELINQUISHMENTS; good deeded farms; water, timber, good rainfall. Fr. Chancer, Westcliffe, Colo.

CHOICE SHEEP PROPOSITION—626½ ACRES, solid block; all high, dry, fine-laying cut-over grazing lands; fertile clay loam aoil; first-class agricultural land when cleared; well watered; railroad station 1 mile. Market value $20 per acre. Our price for the tract $10.50 per acre.

1,400 acres of very choice land, both for agriculture and grazing; splendid sheep-raising position; well watered by several streams. Average distance 2 miles to railroad. Price $12.50 per acre.

We have other tracts in any size desired. Write for further particulars.

The E. L. C. Co., Dept. 49, Merrill, Wisc.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

WANTED—SMALL THRESHER; 20 TO 26-inch. Chas. T. Child, Cheyenne, Wyo.

MONEY TO LOAN ON DRY LAND FARMS and stock ranches. Write Shanholtzer, Brush, Colo.

FOR SALE—SEVERAL THOUSAND SECOND hand bale ties, nearly full length. At 1226 Wazee st., Denver, I. E. Newton.

THREE NEW ½-TON TRUCKS, ELECTRIC starters, lighta, etc.; can be bought below cost. See them. 2014 Champa St., Denver.

PARTS AND MOTORS OF ALL KINDS SUITable for tractora, at junk prices. Auto Wrecking & Metal Co., 834 Broadway, Denver.

WANT RANCH IN TRADE FOR HOTEL. COMpletely furnished, good mining town, high school, county seat. Georgetown, Colo., Box 26.

1918 CASE TRACTOR AND 3 GANG DISC plowa, practically new; bargain. Walter G. Lyon, 336 Gaa & Electric Bldg., Denver, Colo.

FORDS CAN BURN HALF COAL OIL OR cheapest gasoline, using our 1918 carburetor; 34 miles per gallon guaranteed; easy starting; great power increase; attach it yourself; big profit selling for us; 30 days trial; money back guarantee; styles to fit any automobile. Air-Friction Carburetor Co., 469 Madison Street, Dayton, Ohio.

A Tribute to the Pinto

Publicity for pinto beans continues to appear in the eastern papers, as a result of the campaign made by the United States Food administration to popularize a neglected food product. The following, from a Boston paper, is a clever tribute to the western spotted bean that will be appreciated by the growers:

Mottled he may be on the skin,
But he is sound as a nut within;
Prettier baked one ne'er was seen,
Piebald, calico, Pinto bean.
(Baked Bean Ballads.)

Good morning, Pinto, welcome to our table.

Mr. Pinto Bean of the well-known family of that name made his debut on the Boston market today with several hundred thousand of his nutritious relatives.

Forty carloads of Pintos and his brethren arrived. Thanks to the energy of Food Administrator Henry B. Endicott, who seeks to provide ahead against a shortage in the regular Boston baked bean of the California pea bean variety.

Pinto is a buff chap with brown specks on his skin. But he is none the less desirable for all that.

Like Portia's suitor, he argues:

"Mislike me not for my complexion."

Once baked, Pinto has most appetizing complexion. He comes out of the pot a beautiful solid brown. Moreover, he has the caloric advantage over most other beans. Mr. Endicott says that measured in calories, Pinto has 1,695 units, compared with 1,625 for the Lima bean and 1,605 for the Navy bean.

Pinto is cheap, bless him. The regular baked bean costs 18 to 20 cents per pound. Pinto sells from 5 to 7 cents a pound less. Figuring Pinto at 14 cents a pound, the Food Administration finds that one pound of him is equal to 4.4 pounds of raw potatoes, 1.63 pounds sirlion steak and 18.6 eggs.

His name, in Mexican, means "Indian," or having a mottled or speckled skin. In ranch life a Pinto is a piebald or calico horse or pony.

Annoyed by Land Men

We have rented a piece of land and have a five year written contract for same. The lease does not mention that the land can be sold during the period for which the contract is written. The owner has listed the land with a real estate agent and we are continually bothered by land men. They even go so far as to go thru the house and buildings which are owned by me. Do I have to permit these men to come on the place? I have asked them to stay off, but they say they will come onto it until it is sold and if I lock the gates, they will take down the fence. If the place is sold can I stay on the place the full period of the contract and if they insist that I must vacate, can I collect a reasonable sum for the trouble and expense I will be put to?—Renter.

The lessee need let no one on the premises for inspection, unless his contract with the lessor so provides. Should the real estate men tear down the fence the lessee has an action against them for damages. Should the place be sold it must be sold subject to the five-year lease, unless the lease provides otherwise.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver, Colo.

The Grange

Offices 415 Charles Block, Denver
C. W. SWAYZE, Editor

Officers

JOHN MORRIS, Golden, Colo., Master.
R. J. ALTIG, Boulder, Colo., Overseer.
C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RIIEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 415 Charles Block, Denver, Business Agent and Secretary.

Pomona Grange met at Lakewood Grange hall June 1st and had the benefit of several interesting and practical talks. Stuart L. Sweet, Field Agent in Marketing for Colorado of the U. S. Bureau of Markets, gave a detailed explanation of the activities of that branch of the government service to farmers, telling of the investigational, extension, inspection, regulatory, standardization, and other lines of work that are being developed in this, the newest branch started by the Department of Agriculture, and in many respects the most important. State Master Morris, following Mr. Sweet's explanation of the work, declared that if the farmers were to be benefited it would be necessary to have county and state marketing men, in touch with the federal department at Washington, thus forming a continuous chain, thru which the producer could get prompt access to the markets of the United States. Mr. Sweet stated that a plan of that nature was under consideration and that in due time there would be a marketing man in every agricultural county, thru whom the producers could get the desired help at the right moment.

Carlos W. Hall of the Western Holstein Farms and president of the State Dairy Association, followed with a talk on dairying, stating that the butter line was constantly moving westward, having gone from its former center at Elgin, Ill., to a point west of Omaha and continuing its westward progress. This is due to the increasing use of milk for domestic consumption in the large centers of population, resulting in a call for butter from the remoter districts, such as Colorado. Because of this demand he declared that the industry in this section was assured of great growth, as we have here the cheap feeds necessary to make dairy farming profitable.

Former Lieutenant Governor Harper gave an intensely interesting account of his nine months' stay in Dutch Guiana, a portion of South America that is practically unknown to Americans. He told of the odd customs of the country and described its people is a graphic way. It was his first appearance before a Grange audience for several years and he was welcomed back most heartily.

County Agent Floyd C. Tripp made a few remarks, closing the afternoon program.

At the evening session the principal number was a lecture on Mark Twain by Prof. Bertrand Lyon of Denver. This was greatly appreciated and heartily applauded, Prof. Lyon being a clever story teller as well as a fine lecturer. The meeting was a decided success and while the attendance was not as large as it might have been, on account of the fine weather that kept many at their farm duties, those who spent the day at Lakewood felt well repaid for the time spent.

Clear Creek Valley Grange No. 4 meets in regular session on the first and third Fridays of each month. On the first meeting night in May several candidates were given the first and second degrees. The second meeting, which is devoted to the lecturer, was given to the Red Cross. Mr. Merritt of the State Council of Defense, gave a lecture on the Red Cross, which was very interesting. The Grange lecturer gave an exchange program at Enterprise Grange May 15. On May 19 Brother Albert Wolf received his final call and by his death this Grange has lost one of its staunchest members and the Insurance company one of its ablest officers.—John E. Meier, Lecturer.

The Superior Grange was entertained at the home of Worthy Master H. G. Troth on the night of the 18th, when $14.55 cents was raised for the Red Cross. Everyone had such a good time they forgot to start home until day light. The Grange met on Saturday night, the 25th, the regular meeting night, at Mr. Troth's and will meet there in future, second and fourth Satudray nights of each month. There was a good attendance at the last meeting and all were delighted that a change had been made. Several families from this Grange are planning to meet some of the members of Platner Grange for a picnic at the river on Sunday, June 2nd.—Akron News.

Remedy for Cattle Lice

Ans. to J. B., Elbert county:

In cases of this kind Dr. George H Glover of the veterinary department. Colorado Agricultural College, advises as animals and where a vat is not available, the following mixture is very convenient and effective: Oil of tar, 1 pint; carbolic acid, 3 ounces; lard oil, 1 gallon. Add enough sulphur to make it of the proper consistency to rub well with a brush. Go all over the cow with this mixture, rubbing it in well against the hair with a stiff brush. This had better be done on a warm day, and the cow should be blanketed to prevent chilling.

"All the resources of the country are hereby pledged"—now is the time to work them to the limit.

Kansas Germ-Free Fluid Vaccine for Blackleg

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

The Kansas Blackleg Serum Co.

LIVESTOCK EXCHANGE BLDG., ROOM 407, DENVER, COLO.

Attractive Shorthorns

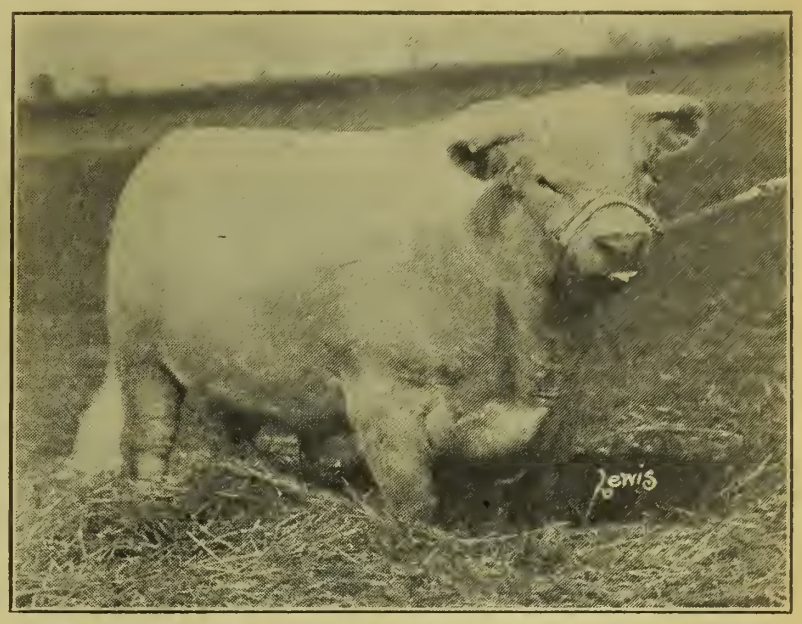
WARNOCK'S INITIAL SALE

LOVELAND, COLO., WED., JUNE 26

51 Head of Scotch Cattle

11 Bulls, 40 Cows and Heifers, 14 Calves, Sell With Their Dams

This offering is by far the most superior lot of Shorthorns ever submitted to the public in the west. Individuals of outstanding merit and ultra pedigrees will be found thruout.



MODEL TYPE—Many times a grand champion and the greatest son of the undefeated CUMBERLAND'S TYPE

ELEVEN BULLS ARE LISTED—Among them is CHOICE MODEL, He is a remarkable calf and will fit in any company.

CUMBERLAND'S TYPE 2D will be a year old in July. He is a splendid roan by Model Type; he is a Marr-Goldie by tribe.

IMP. SECRET STAR—Roan, July 26, 1916, by Fairy Prince; he is a grandson of Pride of the Herd, and is a straight Secret. This bull was bought from the Harding consignment at the Congress show and sale by an International judge.

EIGHT BIG, HUSKY RANCH BULLS—Reds and roans; plenty of bone and ready for service,

THE FEMALES LISTED will compare very favorably with the best offerings sold east or west this spring; every one of a desirable age. The cows are wonderful producers—big, roomy brood dams. Many show heifers are included.

FOURTEEN COWS SELL WITH CALVES at side by MODEL TYPE, their celebrated show and breeding bull, who is a double-bred Lady Douglas and Cumberland individual. Nearly all of the females are rebred or are heavy in calf to **MODEL**

Several are bred to IMP. ADVOCATE'S MODEL, a white April two-year-old bull bred by George Watson, Aberdeenshire, Scotland. He is by Lord Advocate, dam Flora by Decimus. This is a strong, impressive bull of unusual scale and quality.

SIX OPEN HEIFERS ars selling, daughters of MODEL TYPE.

Such families are represented as Marr Goldie, Marsh Violet, Queen of Beauty, Victoria, Orange Blossom, Campbell Ury, Secret, Lavender, Marr Beauty, Duchess of Gloster, etc.

The catalog of this important event will be mailed to all who ask. It is handsomely gotten up with many actual photographs therein. It will interest those who are interested in great Shorthorns. The Warnocks have made plans to entertain their visitors most royally, and in a way that will not be forgotten by those who attend from eastern points.

Write for catalog, mentioning this paper. Address:

David Warnock & Sons, Loveland, Colorado

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coming to farmers from the rich wheat fields of **Western Canada.** Where you can **buy good farm land at $15. to $30. per acre** and raise from **20 to 45 bushels of $2. wheat to the acre** it's easy to make money. Canada offers in her provinces of Manitoba, Saskatchewan and Alberta

160 Acre Homesteads Free to Settlers

and other land at very low prices. Thousands of farmers from the U.S. or their sons are yearly taking advantage of this great opportunity. Wonderful yields also of **Oats, Barley and Flax.**

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Rub your finger over the surface of an axle and feel how rough it is. It is covered with tiny seams and pores which cause friction. Use

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on your axle and prevent friction. It is made of the finest grease stock and powdered mica. It fills the pores and gives the axle a bright, hard coating.

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Continental Germ-Free Blackleg Vaccine

Gives Lasting Immunity
One Administration Only Necessary
Price, 25c per Dose
Discounts in Quantities
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Offers for sale the Jersey bull Prince Eminent Lad No. 162397; fine individual; well grown; well bred. Price $100.00. Write for photo and breeding.

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Shorthorn and Polled Durham Cattle

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can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

$25 Holsteins $25

You can buy calves for less but when you buy stock from Roberts you get value received. High Grade 15-16 pure, 5 weeks old calves. Specify markings. Express paid. Satisfaction guaranteed for $25. Cows $125.

J. A. ROBERTS
Cattle Expert Waukesha, Wis.

HOLSTEIN CALVES

Choice, high-grade, beautifully marked heifers or bulls, 5 weeks old, $20.00 crated f. o. b. cars. Write

J. C. KENYON & SONS, Box 39, Elgin, Ill.

Recent investigation has shown that sixty per cent of the business done by the Pennsylvania and Baltimore and Ohio railroads is on account of the war. It is likely a similar condition prevails on other lines. It is no wonder, therefore, that traffic is congested.

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DENVER, COLORADO

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We Have on Hand and For Sale

250 Head Yearling Bulls

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Good Bone, Colors and Markings
Fine Condition for Service

Write or phone us regarding these Bulls. It will be worth your while.

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High Class Jerseys and Durocs

"THE WESTERN HOME OF THE MAJESTY'S"

Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the other day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, better get a Majesty bull calf while the getting is good. I have them. Also a few fall boars, splendid good ones, at right prices. I will have something still more interesting to tell you very soon about Majesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

"It isn't because the idea is new—but because your ideas are old, John"

"Your father felt the same way about the harvesting machine—and the same way about the silo, the tractor and the automobile. My place is as modern by night as it is by day. We have electricity for light and power. Electricity lessens all of our work. It is like another hand—it saves work doing the chores—and the current is always available for light or power day or night. Investigate, John, as I did. I found out all about farm lighting plants and bought the Alamo Unit.

"Here are some of the reasons I chose the Alamo. First, for its simplicity. It requires little or no attention. It is practically automatic in operation. You simply touch a button to start or stop it. If lubricating oil or cooling water runs low, it automatically stops so the machine cannot injure itself."

A Complete, Compact Unit

The Alamo is built in one complete, compact unit. The engine, the generator, the radiator and the switchboard are mounted together on one base—this does away with belting, shafting and the like. Its running balance is perfect. It can be set anywhere—no special foundation is required. It is free from vibration and noise.

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The engine or motor has ample power—yet it is simple and abuse-proof. Alamo engineers solved the problem by the use of the Ide Super-Silent Motor, designed expressly for this plant.

Durable, Dependable and Safe

The generator runs practically without vibration, adding greatly to the life of the unit. It is well ventilated and entirely protected against oil. Its capacity is 1,000 watts. This is ample power for furnishing all lights required, charging the battery and plenty of current for other purposes.

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Because of its simplicity the Alamo Unit is easy to install and easy to care for. And when the Alamo is installed, a woman or child can take care of it and run it. All there is to do is to keep fuel and oil supplied and water in the radiator.

Booklet Free

The Alamo booklet describes and illustrates the Alamo Unit in plain, simple, non-technical language. It tells the "whys and wherefores"—it describes everything in an understandable way. Write for this booklet, it is free. When we send it, we will tell you the name and address of the nearest Alamo dealer, and where you can see the Alamo Unit in operation. Write today.

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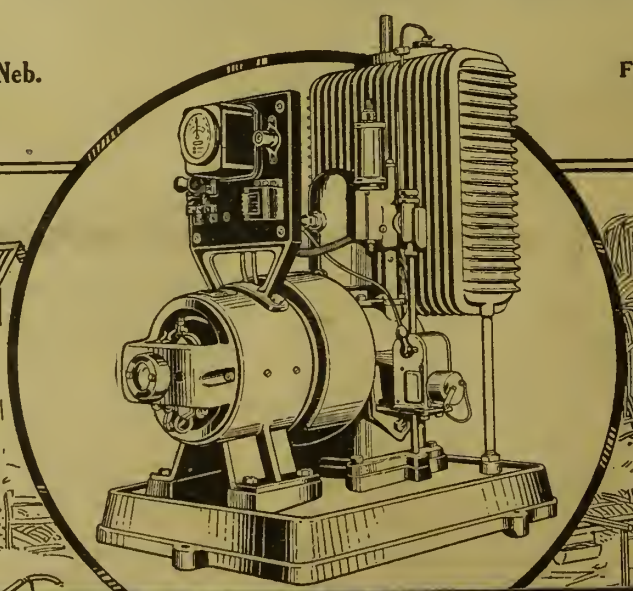

Use ALAMO Electricity

The Perfectly Balanced Electric Unit

WESTERN Farm Life

Vol. XX | Denver, Colorado, July 1, 1918 | Semi-Monthly

They Are Selling Bones for Food in England

Over in England they are selling bones at the rate of five pounds for one shilling. Policemen regulate long lines of people patiently standing out on the sidewalks, waiting for a chance to enter a food shop and buy a small quantity of food. It takes about three minutes for the shop keepers to dress their windows over there, merely because there are, perhaps, but a few cans of condensed milk and a box or two of corned beef to be displayed.

Yet over here in America, bones, hay, even fats and precious scraps of meat are going into the garbage pails. Altho in many cities there were long lines of people waiting this winter for supplies of coal, there has as yet been no pinched faced mob pleading for food. True, there are frequently long lines of people on the street, but mostly they are buying tickets to shows!

The accompanying picture is from the Official Press Bureau in London. It was sent over to this country for the purpose of showing America what England is really facing. Farmers need no further reminders of the urgency of greater meat production.

The Universal Thresher

YOU CAN'T CUT OUT A BOG SPAVIN OR THOROUGHPIN

but you can clean them off promptly with

ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

and you work the horse same time. **Does not blister** or remove the hair. $2.50 per bottle, delivered. Will tell you more if you write. Book 4 R free. ABSORBINE, JR., the antiseptic liniment for mankind, reduces Varicose Veins, Ruptured Muscles or Ligaments, Enlarged Glands, Wens, Cysts. Allays pain quickly. Price $1.25 a bottle at druggists or delivered. Made in the U. S. A. by
W. F. YOUNG, P. D. F., 155 Temple St., Springfield, Mass.

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Bidwell Beaner
is what you are looking for
It does the work
Write at once for catalog and prices on this and other
BEAN HARVESTING MACHINERY
E. E. SCOTT
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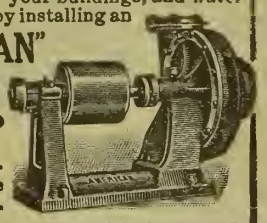
IRRIGATE Your Field and Garden

Get larger yields and profits. Provide fire protection for your buildings, and water for your stock by installing an
"AMERICAN" Centrifugal PUMP



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General Office & Works: Dept. 27, Aurora, Ill.
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Big Money in Running Water

Let us start you in a business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.
Small investment; easy terms. Make machine pay for itself in a few weeks work.
There is a big demand for wells to water stock and for irrigation.
Write for free illustrated circulars showing different styles.
Lisle Manufacturing Co.
Box 943 Clarinda, Iowa

Hand Pull Lateral Gates

These gates prevent cutting the ditch banks in order to divert the water and put the water under complete control of the irrigator. They are durable, low initial cost, preserve ditches. May be attached to "Armco" iron pipe outlet conduit any desired length. No cement work required.
Write for our free 125 page catalog, which illustrates and prices these gates, as well as more than 65 other articles for the irrigator including the "Armco" flumes, ditch lining, pipes, culverts, tanks, troughs and grain bins.
THE R. HARDESTY MFG. CO.
1837 Market Street DENVER, COLO.

Another Centralized School

Better educational facilities for the children of the Guy Hill region of Jefferson county will be provided as a result of a decision, reached at a meeting of school patrons of District No. 10 held June 4th, at which centralization of three rural schools was decided on. Instead of three weak, one-room, six months' schools there is to be a nine months' term in the Robinson school, with a capable teacher, and transportation that will carry pupils living at a distance to the centralized school. The Robinson school will, for the present, be ample in size to provide for the enrollment of the district, which is in the neighborhood of 25 pupils. Scattered as these pupils have been in three separate schools, it was impossible to give them the advantages they deserve.

It was the pleasure of the editor to attend the centralization meeting and address the school patrons in place of Prof. C. G. Sargent, head of the Department of Rural Education at the Agricultural college, who was to assist in carrying out the centralization plan, but had been called east by the death of his mother.

The vote for centralization stood 26 to 11, opposition, however, coming not on the question of combining the schools, but on the question of location. Everybody without exception favored better schools, but naturally there was some division as to which of the school houses should be used. When the vote was announced, however, practically every school patron expressed satisfaction over the result. The plan is to be tried out during the coming school year and if it succeeds as well as expected, plans will be made for building a larger and more substantial schoolhouse.

It takes an enterprising spirit for a small community situated in a rugged country, where the vans will have to climb towering mountain steeps in carrying the pupils to and from school, to take such a forward step as school centralization means, but with the people of the Guy Hill district the chief question was that of providing an education for the children.

Another step in advance was the decision of the school patrons, conveyed to the board by unanimous vote, that the school house should, in future, be open to all public meetings and serve as a community social center.

The board is composed of Henry Billingsly, president; Henry Ramstetter, secretary, and R. A. Crowell, treasurer.

A pamplet just issued by the Department of Rural Education of the Agricultural college states that Colorado now has 60 consolidated and centralized schools. Fifty-three are fully organized and in successful operation, while the others were formed within the past few months, and will be ready for business at the opening of the next school year.

The enrollment in graded rural schools that have been consolidated now numbers 7,000; 1,000 of these are enrolled in high schools; 157 unfit school houses have been abandoned and replaced by modern structures.—A. T. S.

Comparative Sugar Prices

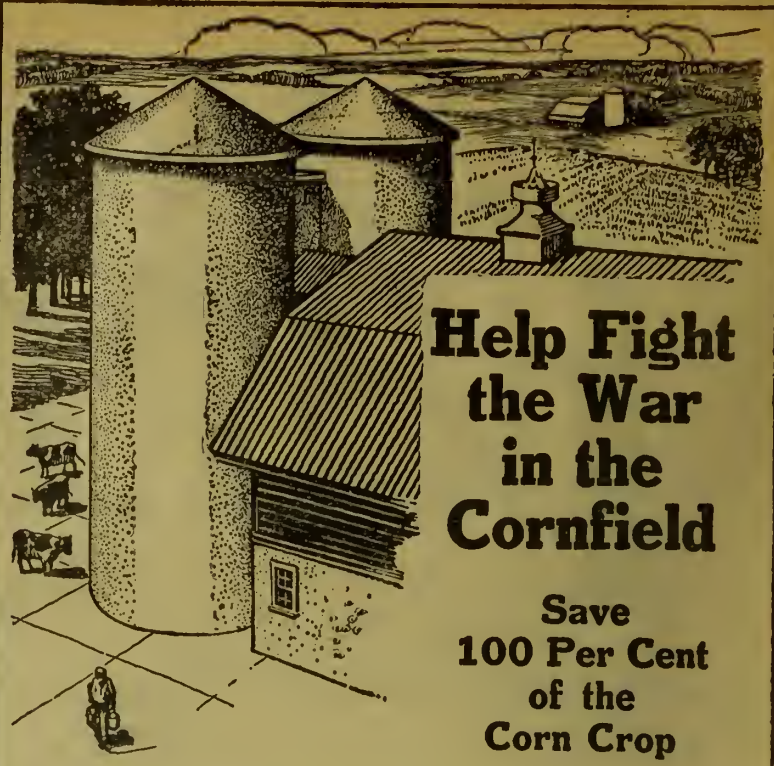
During the first year of the war, the United States consumed more than four million tons of sugar. The wholesale price of refined sugar in this country at the present time is $7.30 per hundred pounds, as compared with $9.15 last August. The regulated wholesale price of sugar in various foreign countries makes an interesting comparison:

United Kingdom, $12.59 per 100 pounds.
France, $12.28 per 100 pounds.
Italy, $26.30 per 100 pounds.
Canada, $8.07 per 100 pounds.
United States, $7.30 per 100 pounds.

An increase of one cent per pound in the price of sugar in the United States would take at least $82,185,820 out of the pockets of American consdmers in one year.

In spite of scarcity of implements and shortage of farm labor, England, Scotland and Wales have all increased their acreage of wheat.

Horse flesh is included among the meats now rationed in England under the card system.



Help Fight the War in the Cornfield

Save 100 Per Cent of the Corn Crop

You can do it with a concrete silo, and keep green fields on tap through the winter.

A concrete silo prevents the 40 per cent waste of the corn crop that happens when corn is harvested in the old way.

You should have a *concrete silo* because it is rotproof, ratproof, windproof, fireproof, permanent.

Write for Bulletins Nos. 55 and 56

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Offices at
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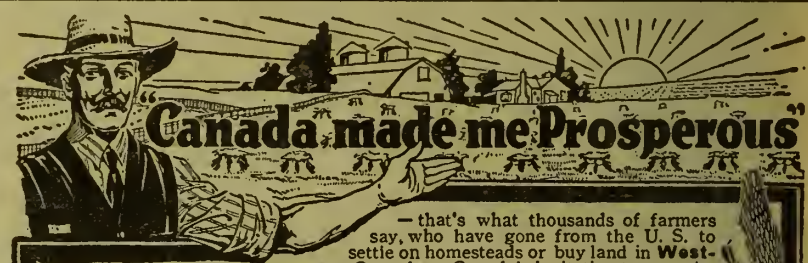
Concrete for Permanence



—that's what thousands of farmers say, who have gone from the U. S. to settle on homesteads or buy land in **Western Canada.** Canada's invitation to every industrious worker to settle in **Manitoba, Saskatchewan or Alberta** is especially attractive. She wants farmers to make money and happy, prosperous homes for themselves by helping her raise immense wheat crops to feed the world.

You Can Get a Homestead of 160 Acres FREE

or other lands at very low prices. Where you **can buy good farm land at $15. to $30. per acre** that will raise **20 to 45 bushels of $2. wheat to the acre**—it's easy to become prosperous. Canadian farmers also grow wonderful crops of **Oats, Barley and Flax. Mixed Farming** is fully as profitable an industry as grain raising. The excellent grasses, full of nutrition, are the only food required either for beef or dairy purposes. Good schools and churches, markets convenient, climate excellent. Write for literature and particulars as to reduced railway rates to Supt. Immigration, Ottawa, Can., or to

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160 ACRE FARMS IN WESTERN CANADA FREE

You Need a Magnifying Glass

to see the seams and pores of an axle. They're too small to see but they're big enough to cause friction trouble. Use

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on your axle and prevent friction. It is made of the finest grease stock and powdered mica. It fills the pores and gives the axle a bright, hard coating.

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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, JULY 1, 1918 | Number 13

How the Lord Helps Those Who Help Themselves

WHAT THE EDITOR LEARNED ON A TRIP IN LARIMER COUNTY

ALVIN T. STEINEL

GIVING demonstrations is usually the business of the college extension worker or the county agent, but sometimes the farmer himself can "give a demonstration" that is far more effective than any operation shown by a trained worker in the vineyard of farm improvement. So it was when the writer, accompanying County Agent D. C. Bascom of Larimer county, Colorado, on his rounds, not long ago, dropped in at the homestead of C. M. Rodgers, R. F. D. 1, Wellington. It was just about dinner time, and the two visitors did not need to be urged to share the hospitality of Mrs. Rodgers, who is famed far and wide for her ability to feed the family on home produced fare.

Outside in the sun it was uncomfortably hot, but within the walls of a concrete house the air was cool and refreshing.

"A substantial dwelling you have," remarked one of the visitors.

"Yes, it's warm in winter and cool in summer," said Mr. Rodgers, "and I built it myself, with the assistance of one helper."

There are four large rooms on the first floor, besides a large attic bedroom, and a full basement under the house.

The walls are 12 inches thick to the first floor and eight inches above that point, of solid concrete, with sandstone pebbles worked in to absorb the moisture. Built-in cupboards and wall cases make the interior convenient for the housewife. The cost of the dwelling was $1,000, a saving of five or six hundred dollars, because of home labor and materials, the sand and gravel coming from the creek bed a hundred yards away.

A chicken house, built on plans suggested by Mrs. Rodgers, has just been completed at a cost of $100. This is of wood construction, open front style, 12x16 feet, on a concrete foundation. It is built of drop siding, with shingle roof, with hotbed sash so set that the light is thrown back against the rear wall, leaving no dark corners anywhere in the chicken house. The open spaces are screened and provided with drop doors to be closed only in case of extreme weather. Plenty of sunlight and fresh air without drafts, is the object sought.

The interior was not finished when the writer visited the ranch. It is to be divided into three compartments and the roosts are to be made of old buggy wheels, a large and small wheel to be mounted one above the other, the spokes forming the roosts.

Barred Rock hens are kept, to the number of about sixty, with registered cocks and the hens bred for layers. The flock is kept at an efficient stage by close culling, Mrs. Rodgers giving the chickens constant attention.

Another necessity that was home built and home planned is the pit silo, twelve feet in diameter and of the same depth. It would have been made deeper, but gravel was struck in digging and at twelve feet there were signs of water. It was filled last fall with corn, put up whole in the bundle, without cutting. This made very acceptable ensilage. Before another corn crop is ripe there will be a cutter on hand, bought by several farmers co-operatively, who will exchange labor in operating the cutter. The cost of the silo was eight sacks of cement and the home labor. It more than paid for itself during the first winter.

Upper Picture—Little Jessie May Rodgers, Aged Four Years, Feeding Her Lamb
Lower View—Well Lighted and Ventilated Poultry House, Designed by Mrs. Rodgers and Built by Her Husband

Fences around the barnyard and garden are built of poles, hauled fifty miles from the Colorado National Forest, under a homesteader's free use permit, and costing Mr. Rodgers only the labor and the hauling, which is done when other work is slack.

There is a fine field of alfalfa, irrigated from a pumping plant with supplementary irrigation from storm water. Plans are being made for the building of a dam to catch the flood waters of the creek which runs thru the ranch. A centrifugal pump, operated by a 12 horse kerosene burning engine raises the water from the creek underflow to the service pipe that supplies the alfalfa.

The Rodgers ranch is an example of what ingenuity can accomplish. The raw prairie has been converted into a paying farm stocked with cattle, and it has all been done by turning to account the advantages that lay at hand, without the outlay of an extra dollar.

Mr. Rodgers is now a member of the Wellington National Farm Loan association and he has a loan from Uncle Sam's land bank, which is being judiciously applied in the further development of the farm. With five and a half per cent money on thirty-six years' time, and payments on the amortization plan, he can buck the farming game with some feeling of assurance in continued success. Three strapping young Rodgers Juniors solve the farm labor problem for him during the vacation season, without calling on the Boys' Working Reserve.

Some miles to the northeast of the Rodgers ranch we called on C. S. Crabill, whose postoffice is Carr, who came to Colorado two years ago and took up a half section of land. The place looks like an old farm, the sod land having been quickly converted into productive soil. Here, too, there is a pit silo which has more than paid for itself in the first winter's use. Like that on the Rodgers place, it is only twelve feet in depth.

The corn was put in whole, in bundles, and thoroly watered while filling. It was allowed to settle several times and then the settled space was refilled with new corn. This resulted in thoroly packed ensilage, that kept perfectly, there being very little spoilage, and that being only around the edges. There was still a little silage in the bottom of the pit and it was in perfect condition, being in the same stage of fermentation as cut silage would be.

As the corn is put down in bundles it is easily brought up out of the pit. Mr. Crabill says he does not intend to cut his ensilage, as he uses it for sheep. He carried a bunch of 110 ewes thru last winter on silage, with range grass as the only additionad feed, and they came thru fine. His crop of sixty lambs is evidence that the ewes were in good condition. The bundled ensilage is easily handled, being thrown out to the sheep on the ground, under the shed in bad weather, or out on the range, when the grazing is good.

"How about the farm labor question?" was asked.

Mr. Crabill smiled and pointed to his wife, who wears the regulation farmerette costume, rides the cultivator, looks after the cattle and does other farm work. And then there is little Beth, who, tho only eight years of age, is a competent sheep herder. She does her work on a pony, as will be seen in one of the accompanying illustrations, and there are two good sheep dogs to assist her.

Purebred Shropshire rams are being used to grade up the herd of native range sheep.

The ranch depends upon the natural rainfall for moisture, consequently Mr. Crabill studies moisture conservation and drouth resistant crops. He will give sweet clover a trial as a hay and pasture crop for his sheep. He consulted the county agent on this subject. County Agent Bascom, who has only been at his duties in Larimer county a short time, is organizing a campaign to clear the northern part of the county of prairie dogs and ground squirrels. Pest districts have been organized and the work of poisoning the rodents is in progress. Many thousands of acres of pasture and considerable cultivated land has become badly infested. The destruction of grass and crops has gone on unchecked for years, altho spasmodic efforts have been made at destroying the animals. These efforts have failed, largely because they were undertaken by individual farmers here and there. Under the Colorado pest law, however, districts are organized, comprising large areas of infested land, on which each owner agrees to poison the animals. When a majority of the land owners agree to create a pest district all are compelled to join in the poisoning campaign. Those who fail to put out poison will have the work done for them and the cost charged against their

Turn to Page 14

Bunch of 110 Ewes and 60 Lambs, Herded by Beth Crabill, Aged 8 Years, and Two Sheep Dogs. These Ewes Were Wintered on Corn Which Was Ensiled in the Bundle, Without Cutting

Irrigator Can Learn from the Dry Land Farmer

MOISTURE CONSERVATION PRINCIPLES ARE THE SAME FOR BOTH

E. R. PARSONS

THE general revival in agriculture of the last ten or twelve years which found expression in conventions, institutions, experiment stations and various forms of extension work and agricultural agents is directly traceable to the interest aroused by the dry farming industry, and the early conventions of the Dry Farming Congress.

At that time, the men of the Department of Agriculture and many of the agricultural colleges were altogether skeptial about the practicability of dry farming and were inclined to discourage the settlement of semi-arid lands on the grounds that the homesteaders were taking desperate chances in an undertaking in which the odds were all against them. This attitude was due to lack of information. The dry farmer who was relying on thoro tillage and conserving moisture sufficient for the needs of his crops was the exception. The great majority were scratching the ground and raising nubbins, as the government observed, many of them were losing out and abandoning their ventures.

The investigators who traveled thru the dry farming districts came to the ocnclusion that the latter class were representative dry farmers, and many of them reported to the government that profitable dry farming was possible only in very few favored localities with some kind of subirrigation or permanent subsoil moisture.

These ideas were presented by some of the speakers at the earliest of the Dry Farming Congresses; but they recieved rather a knockout blow when the exhibits for the exposition began to come in. This exposition of dry farming products was not only convincing, but when the agricultural agents and investigators traced them to their source and visited the farms they were raised on, a reaction started at once and this was further intensified by the work of some agriculturists who made most convincing and elaborate experiments to determine the practicability of dry farming as an industry. In a very little while the professors were heavily represented at the Dry Farming Congresses, and enthusiasm took the place of apathy and dry farming became a recognized industry.

Such states as bordered the dry farming area and were themselves subject to occasional drouths also began to take notice and become interested. Altho in many parts of the world, the raising of crops on stored moisture was a very old idea, it was something quite new in the West and began to challenge public attention, at a time when the limits of irrigation commenced to make themselves apparent. The fact that water could be accumulated and conserved in the soil by the right kind of tillage made for better methods all round, and not only in the dry farming districts but in all of the western states, and some of the central, cultural methods improved, the plowing became deeper and the cultivations more frequent. It was most significant that the standard of plowing at once commenced to improve, and the old four to six inch plowing to be abandoned in favor of much deeper tillage. A glance at the old records will show that in many states where the average per acre was about 16 to 17 bushels, it is now nearer to 20 or 25.

It was also easily demonstrated that the effects of drouth could be reduced to a minimum in any state by the right methods and the dry farming propaganda gave these methods.

Dry farming literature was read with interest in all our states, first as a matter of curiosity, later as setting forth new ideas and principles of agriculture, some of which were adaptable to nearly all soils and climes. The South was quick to perceive that the deep tillage methods of the successful dry farmers tallied closely with those of Dr. Seaman Knapp, who made two bales of cotton grow where only one had grown before.

Alfalfa in Rows at Limon, Colo. Altitude 5,000 Feet; Rainfall Averages 15 Inches. This is on Non-Irrigated Upland. Photographed June 20, Just Before First Cutting

All dry farming operations are based on a scientific conception of soil and water physics and an increase or decrease in precipitation—in the proportion of water to soil—naturally demands some molication in method. Thus we find that the very dry states require deeper plowing and more intensive culture than those further east, and in the more humid states where the average precipitation runs 30 or 40 inches, there is a wide divergence in agricultural procedure, when compared to dry farming work. The reason for this is based on the fact that in the dry farming country the subsoil under the prairie is naturally dry, so dry that the clay is all cracked or jointed, which gives us the name of joint-clay, so often found underneath our soils. In the west states the subsoil is always moist, often containing free water which, under certain conditions, may rise to the roots of crops by capillarity which cuts out many of the drouth problems that the dry farmer has to contend with.

In the countries of heavy precipitation, air is usually needed in the soil, more than water, but in the West the farmer worries about moisture and lets the air take care of itself, for he always has too much of it. This is not always a disadvantage, however, for the air in our soil keeps it sweet and ready for a crop as soon as the sod is broken.

Dry plowing, which is often late plowing, is always bad for crops, because until settled by the rains the ground is over aerated, and the air moving thru the soil drys it out. This is also the trouble with too much manure and straw; they lift the soil and allow too much air to circulate, which burns the crop. All such fertilizers, when used on the dry farm, should be disked in on the surface in the fall and then plowed under as deeply as possible in the spring. In humid farming, no such precautions need be taken, for the ample precipitation drives out the air.

Dry farming has given to agriculture many new ideas in soil physics. It was always supposed, for instance, that vegetation could grow only on free water; but dry farming has shown that crops and trees can be easily raised on the film water around the soil granules, free water being necessary for germination purposes. This fact also destroys the theory of root pressure, which was advanced by the old agriculturists to explain the rising of the sap; for this root pressure was supposed to be caused by osmosis—an interchange of liquids between the root and soil which demands an osmotic current, which is not possible without free water.

Dry farming investigations have also shown that the old belief that the limit of capillary movement of water in the soil was so low as 6 or 7 per cent in ordinary soils is no longer tenable, for in many of them free water does not commence to move by capillarity until the percentage rises to 16, 17 or even 20. This means everything to the dry farmer, for if his conserved moisture were to move by capillarity into the dry subsoil until the dirt carried only 6 per cent of water, it would be impossible to raise crops; but it has been demonstrated that even with 100 feet of dry subsoil underneath his ranch, the farmer can conserve several feet of moist soil in the upper layers, which will hold in the spring of the year from 15 to 20 per cent of water, and this stays in place without wasting away into the dry subsoil down below.

Many Interesting Facts

Dry farming has brought to light many interesting facts with regard to root structure, germination of se the actual moisture needs of diffe plants and trees and other point like nature too numerous to take in this article.

Years ago the farmers who irrig were rather scornful of the dry l ers; but today thousands of irriga are supplementing the product of t water by dry farming above t ditches. This is particularly tru the owners of small private ditche the bottom of some creek, or ri with a back pasture in the b When driving along one of these toms we notice everywhere alf below the ditch, corn, cane and Su grass in the higher land on the su side of the road, which used to be tirely devoted to grazing.

Many irrigators with dry f neighbors have learned that an ex of water is worse than none at all, some have discovered that one irr tion followed by the right kind of farm soil culture will produce m better crops than where more w is used. History shows that agri ture by irrigation has never end like other forms of husbandry, we all know that too much water ruin any soil. There are many sons for this; perhaps the princ ones are the washing out of the l and the extermination of the soil teria. The carrying away of the l renders the soil hard and lumpy diffcult to work. The flooding of l with water destroys those bact which develop plant food and hel render the soil fertile and these supplanted for a time by the amo bacteria which flourish under wet ditions and render the soil sour infertile. The day is not far off w the land of the great irrigated tions will have to be redeemed by farming. There is no other way In considering what dry farming done for agriculture we must consi the millions of acres at one t classed as desert now producing goodly income.

Nearly all trees, and especially f trees, are easily raised by dry farm methods on account of their root deeply in the soil. We have seen farm fruit orchards in California w an average precipitation of only inches sell as high as $600 an acre grain land for $200. An indus which can raise the value of land fr $2 to $200 an acre deserves well of commonwealth and is certainly wo nursing.

Methods must be constantly m fied or intensified to meet local c ditions in new settlements, and order that this work may be done fectively and relieve the farmer much as possible, every state sho have a dry farming college w branches, experiment stations and tension service. This is very little ask for an industry which will br 90 per cent of the land under cu vation, for even the m optimistic will allow t we can never irrigate m than 10 per cent, and ev those who do the irrigati can double their acre and in many cases raise b ter crops with the sa amount of water by stu ing dry farming meth and applying them w judgment at times wh moisture conservation w do more than irrigation a leave the soil in much b ter tilth.

The Roper Orchard, Goodpasture, Colo. Altitude 6,000 feet. Average annual rainfall, 15 inches. Varieties: Apples, plums, cherries. Trees have never been watered artificially. Fruit from this orchard won championship at International Dry Farming Congress, Colorado Springs, 1911. (Photo taken last fall.)

Let Congress Take Notic

In the above article M Parsons calls attention the need for dry land far ing education. The Unit States Department of Ag culture has a number of e perimental farms in t semi-arid region, whe problems are being work out, with occasional pu lished results in the way bulletins. The work do on these federal statio

Continued on Page 11

Use of Clovers on the Dairy Farms of Holland

VALUE OF LEGUMES LONG RECOGNIZED IN THE LOW COUNTRY

The writer of the following was born and reared on a farm in Holland. He is now with the Wilcox Dairy, Broomfield, Colo. He knows cows and the keeping of them; he knows the crops that keep the cows and maintain the fertility of the soil. His observations on the use of legumes by the Hollanders, who are past masters at dairy farming, coincide with the experiences of progressive American farmers.—Editor.

Dr. L. S. DIJKSTRA

E HAVE been raising clovers on our farms in Holland for over fifty years and our fair easure of success impels me to set th our experiences for the benefit other farmers, who may not yet be nvinced of the value of legumes as il builders and as a feed crop. The st clovers that grew on our farm Holland were those which nature ve us in her annual flora, namely the ld red and white clovers. Only a w of our permanent pastures had e benefit of this gift of nature, but andfather and father knew by exrience and told us, that the hay from ese clover meadows was worth twice much as the rest and it was then, d is still, carefully put away in a parate corner of the barn and fed ly to the best of our stock.

As soon, however, as science ought forth many varieties of clover d seeds of the same could be purased, we made use of it on a big ale. Old pastures were plowed up d covered with a clover coat. Seed as saved and some years sold at a od price. Our stock had better hay an ever before, so that not only the ality of the stock improved, but the lk flow was increased.

Scientists tell us that a ton of clor h y has about three-fourths the lue of a ton of wheat bran, but I beve it is often equal to the bran. All our stock, from chickens and three week old calves up to old horses, enjoyed clover hay.

Aside however from the fact that it is an excellent feed for livestock, we obtained other and greater benefits from the clovers. Part of our farm consisted of rather sandy, infertile soil and this part has been changed by the application of straw manure and the growing of clovers into very good, productive soil. Not only do the clovers add vegetable matter to the soil, but they furnish, in the cheapest and most aconomical way, that very expensive and necessary element, nitrogen. Experiments have taught us that the clovers contain one-third of the nitrogen in the roots and two-thirds in the leaves and stems and, further, that two-thirds of the nitrogen is taken from the air and one-third from the soil. Therefore, where we remove a crop of clover as a hay crop the soil is neither enriched nor impoverished. We practiced many years on our farm the following methods on poor soil: the first crop, sometimes the second also, was cut for hay, the second or third, however, was plowed under. On our crop rotation we put the clover in a four-year rotation for heavy soil and two-year rotation for the light soil.

As before mentioned, the oldest clover fields on our farm were those where the common clover was growing year in, year out, seeding itself. Later on, however, we made use of many other kinds, as crimson, alsike, alfalfa, etc., all under different circumstances and with different success, on which I shall not expatiate here, as the farm conditions vary so much, and this article is only destined to give the reader a general idea about why and how to grow the clovers.

The Sowng of Seed

Though our soil was rich in lime, we still used quite a bit of lime either for the preparation of the clover field or on the old clover meadows. In the beginning, we did not have much confidence in the so-called cultures of clover bacteria, seeing in too many cases little or no result of the same. Later on, however, we tried on our poor soils, with liberal top dressing of barn manure, either the top layer of a field where some knd of clover was used, or we used the clover seed mixed with some molasses and a bottle of the desired bacteria culture, and it cannot be denied, with good results.

We sow clover as early as we can in spring. For the spreading of the seed we used, in the old days, the hand, but now the seed mill, which gives better results and in case the clover has to be sown with some grain, we sow it with a drill to a depth of about one to two inches. The rate of sowing varies according to the kind. In general we used from eight to about twelve pounds of our own seed, and four to eight of the pure commercial seeds.

When we use a nurse crop for the clover, either barley, oats, rye, flax, wheat, etc., we always take care that this crop is sown rather thin. This gives the clover, after having the nurse crop lightly harrowed and the seed thrown in broadcast, a better chance for development in the spring.

As with so many things in a farmer's business, we have also had many failures in clover growing, and I do not hesitate to tell our mistakes as they may be a lesson for others.

About fifteen years ago, at a time when the seedsmen were not obliged to guarantee the quality and germination of the seed, we bought mammoth red clover seed that proved to be practically a worthless product. Not only that its germination strength was poor, but thru it we sowed weeds in our fields, that had never been there before, and it took us years to get rid of them, of course with the adherent trouble and expense. Therefore I emphasize good, pure seed. It is better to spend a few dollars more at the start than to lose hundreds at the end. Most of these seed we gather from our own crops. That is the safest way, but I know that weather and other circumstances do not always allow this.

Another failure we experienced; in a wet spring we could not get the lumps and clods fine enough to obtain a pulverized seedbed. In consequence we could not make a compact seedbed, that was thoroly united with the subsoil, and the results were insufficient germination and unequal stand.

The best results I believe, will be obtained with fall plowed land, if time and circumstances allow.

In preparing the seedbed it is better to disk and harrow one time too many than not often enough. The ground can never be too fine; that is an important factor.

Many a time we had also the unpleasant experience in growing clovers with a nurse crop, that the grain lodged before harvest time, smothering the young clover. Now we follow the practice in such cases of cutting the lodged grain for hay. Cutting the grain too short is also an undesired thing. We leave the stubble as high as possible, in order to afford a good winter protection.

As to the cutting and pasturing of clovers, experience taught us that it is best never to pasture off or cut close for hay the year of its seeding, nor do we pasture off it the second spring unless it has obtained a good start and the ground is well settled.

Clover Silage

When possible we never ensile our clover, as experience taught us that clover hay should be preferred by far to clover ensilage. However, continued unfavorable weather conditions have compelled us, many a time, to take refuge to ensiling. To obtain the best results in such cases we put the clover wet from dew or rain directly from the mower into the silo, packed it as well as possible, and covered it with a heavy layer of clay, in case the clover had to be put in before the corn

Chicken Raising Helps a Girl Thru College

GRACE BREED GETS AN EDUCATION OUT OF THE BACK YARD

ALFRED WESTFALL

F YOU wanted to go to college and all that you had to go on was forty ns out in the back yard, would you ? Grace Breed did. We might say at she discovered the back yard. Of urse, people knew of its existence fore her discovery. But they used as a place to dump tin cans. Grace eed discovered that it was the place hunt for things that we usually ink are at the end of the rainbow.

When she graduated from high hool in Denver, Colorado, she had great big desire to go to college and deadening realization that there isn't any money at hand to send her. she started a chicken ranch in the ck yard. It takes a great deal of ith to believe that a sixty by one ndred foot chicken ranch will pay ur way thru college.

She had always liked chickens. The rty hens in the back yard were her ns. They were a little flock of pureed White Wyandottes that she had ilt up. She started out to monopolize e neighborhood market.

During the winter before she gradted from high school she set her ns early and got some fine hatches. e made her own coops and pens. All at summer she tended chickens and ld young "frys" and baby chicks.

Then came fall and cold weather. ll over the state hens quit laying. he price of eggs went up as though e law of gravitation had been realed. Right then was when her rly hatched pullets came to the scue. They grew and laid eggs as od chickens should. And if a flock chickens ever received scientific re, it was that flock in the back rd. It seemed as though they caught some of the enthusiasm for a college education. It was very seldom that a hen climbed on the roost at night without the satisfaction of knowing that she had done a good day's work.

But the chickens weren't hustling any more than Miss Breed was. She specialized on "chickenology." She made a scientific study of the subject. Those hens got balanced rations of the finest chicken delicacies the market afforded. They had clean straw to scratch in and fresh water to drink. She was superintendent and sales manager at the chicken ranch, and she didn't neglect either end of the business. She built up a regular neighborhood trade. She disposed of her eggs to private families for the highest retail prices. Housewives were glad to get her eggs because they were strictly fresh. She had a set of books and kept accurate account of every cent received and expended. In fact, she managed her business like a modern business man, or shall we say business woman?

"I like chickens," says Miss Breed. "And I enjoy taking care of them. I didn't have to work as hard or as long hours as the girls who were working down town and yet I was saving more money. Then, I liked to feel that I was my own boss and that I was building up my own business."

The winter passed and the spring and the summer. When September came Grace Breed registered as a freshman in the Domestic Science course of the Colorado Agricultural college. In the bank she had a nice snug deposit of almost three hundred dollars. She had to skimp and save to make that amount pay all of her year's expenses, but by doing light housekeeping she managed to do it. And in the class room she is as much of a success as she is in the poultry yard.

Miss Grace Breed Turning Up Fresh Earth for Her Flock

Careful analysis of the figures in regard to hogs indicates that we were five to seven million hogs short at the period when the conservation program was started with the American people. The average export of hog products per month was roughly 55 million pounds before the European war. In the last half of the year 1917, because of the decrease in the number of hogs in the country, it fell below the somewhat increased level due to war demands. In March, 1918, we were exporting 300 million pounds per month and can see our way clear, with the present saving and production, to go forward at this rate for an indefinite period. We have now in storage one billion, one hundred million pounds of pork products which provides an ample reserve for a steady flow to meet the allied demands as well as the demands of this country. This represents wholly the voluntary conservation of the country, as it does not reflect the present increase in the hog population.

Analysis of Farm Labor Problem

THE HIRED MAN ALSO IS DOING HIS BIT

E. W. FERGUSON, Jr.

I WISH Mr. Post, assistant Serretary of Labor had been with me recently on a little trip I made in Eastern Nebraska and Western Iowa. He would have seen at first hand that farmers were well up with their work at corn planting time, exceptionally so in fact, but it was not at all due to a plentitude of labor, but to an exceptionally favorable spring farm work. Where I visited each man had accomplished fully 50 per cent more than they had averaged by the 15th of May and close to twice as many days had been spent in the field as they were able to at that date either in 1917 or 1915, which were backward seasons. Ten days or more of work were put in during March and then they were able to work every day during April and the first half of May. It may be that in these days of strife they had planned their work better, but the facts are that they were getting along almost without hired men.

But right here I want to hand a compliment to the hired men. Comparatively speakng, they have made more improvement than the farmers themselves. Most of these young men are of draft age and while the ones I talked with stated they were ready to go as soon as called, they all seemed to think it was their duty to produce all they could before they are called. This is a spirit that the Kaiser cannot understand and it is the reason we are unconquerable. These boys that are down the list or are in deferred classification are doing their best to win, and that is all they could do if they were in the navy, the flying squadron or on the fighting front.

One young fellow is working for a large farmer; he is 22 or 23 years old and physically fit. He hired on a sliding wage scale, $60 for April, $65 for May, $70 for June, $75 for July, $80 for August, $85 for September, and either $85 for the remainder of the season or else corn husking wages. Most men are getting $60 or more with their board, and even boys 16 or so are getting $50 a month if they are men in size and able to drive four to six horses. So I must say that Mr. Post is not posted.

These men are expected to work 8 or 10 hours in the field, with overtime at chores enough to bring their day up to 12 hours or so. They will have permanence of employment if they will stay, but already there are offers of $5 a day and up for harvest and stacking, as Western Farm Life tells us, and the more unreliable help will likely jump their $60 to $75 jobs for a chance at "day labor."

This young fellow I am pointing out is buying War Savings Stamps amounting to $50 each month and you may be sure such a man is reliable. No he is no relation of mine, but he is working for my brother, and I scarcely ever saw his equal for a hired man. Now I am not picking out some isolated instances, but this condition obtains thruout the great grain belt, and the indications are that a bumper crop will be grown. If it is done by a few rugged, conscientious hired men and young able bodied farmers, helped out by many old retired farmers, boys and a few women and girls, will Mr. Post see that we get the labor to save the crop? A retired farmer can drive a four or six horse team, but a man fifty or sixty years old cannot shock as much grain, pitch as many bundles or husk as much corn as a young man such as I have described, nor can he do more than half as much, yet such an old man can probably do as much or more than a negro laborer, a coal miner, iron worker or such other man not trained to farm work. Where is this farm help coming from? Frankly I do not know. Our best bet is the furloughed soldiers. There are many farm raised young and middle aged men in our towns and cities that could season themselves into the work in a few days, but they are pretty busy too.

I have described conditions as they exist in a district thru which I made a circuit of about a thousand miles. As to our own labor problems here on the plains, and intermountain country: these very high wages have drained many of our best young men almost more than has the draft. I have seen boys of 16 or so directing the driving of 500 head of cattle for a two day's trip with only one helper. We are caring for our stock this summer but how will we put up the hay for them this winter Again, I don't know. Our women have always helped a great deal in haying time but they cannot do the heavy work with the fork, they can drive the mowers and rake or even the sweeps but they cannot do our stacking. We cannot pay the $5 a day or more for these jobs, neither can we pay such wages to potato handlers, and we old men, kiddies, cripples and the women cannot handle very many tons of beets, spuds and the like. Will Mr. Post come out here and show us?

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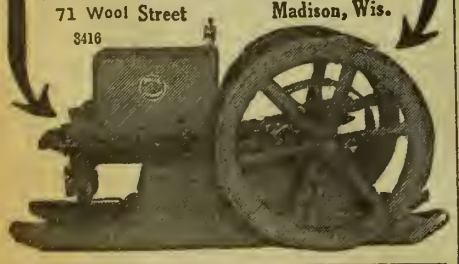

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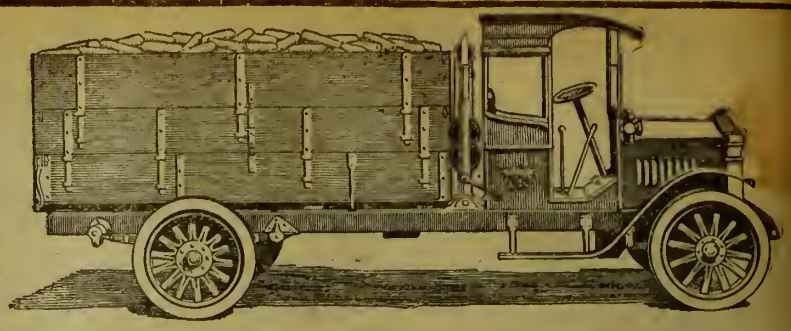

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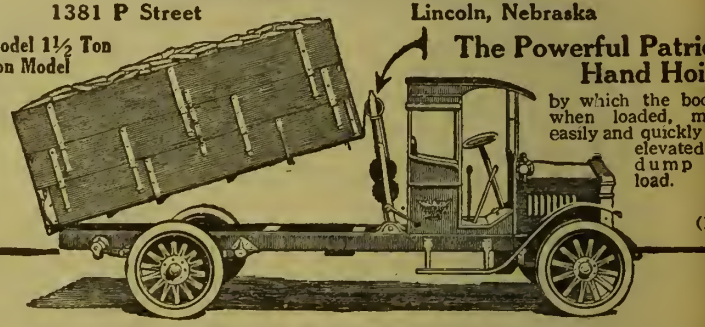

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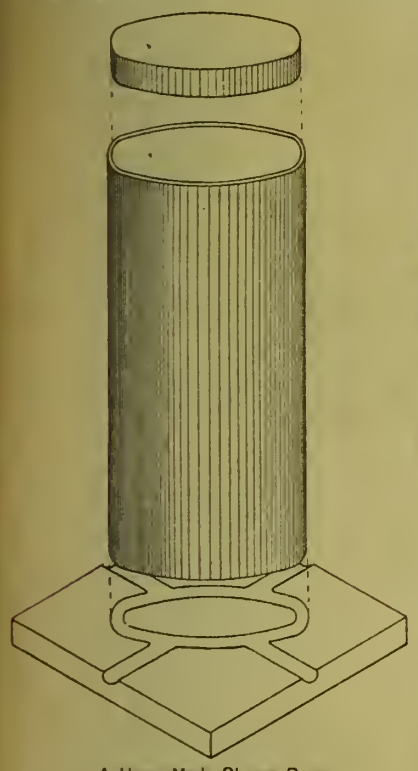
Cheese From Left-Over Milk

G. M. THOMPSON

Every owner of a cow at times finds himself with extra milk on hand. To keep it from spoiling he must have some simple method of turning it into a valuable human food. A home-made cheese press meets the situation.

I am in charge of the fisn hatchery in Estes Park, Colo. We keep two cows, so that I can have milk the year around, as I use the thick clabber to feed my fish. During the summer we sell all the milk and cream that we can spare to the tourists. After they go the milk begins to accumulate. We make butter out of the cream, but we still have the skimmed milk. We don't keep chickens or hogs on account of the wild animals. It didn't seem right in keeping with our food pledge to throw away a half gallon of skimmed



A Home-Made Cheese Press
(From Drawing by A. Westfall)

milk a day. To use it I made a small cheese press.

Such a press can be constructed in the following manner: Melt off the top and bottom from a one-gallon tin can. This will serve as a mold for the press. For the base use a board a little larger than the can. Cut a circular groove one-half inch deep that the can will slip down into. From this groove cut small grooves leading to the edge of the board. These will allow the whey to drain off. Also cut a round block that will just fit inside the can for the top of the press.

A press of this size can handle conveniently the curd from two and one-half gallons of milk. Excellent cheese can be made from skimmed milk alone, but a better product can be obtained by using one gallon of fresh milk with one and one-half gallons of skimmed milk. For rennet use junket tablets, one to each quart of milk. They can be purchased at most grocery stores.

The process is simple. First bring the milk to the temperature of 95 degrees as in making cottage cheese. Dissolve the junket tablets in a little cold water. Then add them to the milk, stirring them in well. Allow the mixture to stand 15 minutes, or until the milk becomes set. Next cut the curd thoroly to allow the whey to separate. Strain the whole thru a cloth. It is best not to press the curd too hard here. After the curd has thoroly drained, turn it into a pan and cut it up fine, adding salt to suit the taste. It is then ready for the press.

For convenience in handling the cheese afterwards, it is best to tie a piece of cheescloth around the bottom of the tin can before setting it in the groove. Then dump in the curd. Tie another piece of checsecloth over the block used for the top of the press and slip it into the can. The cheese should be left in the press under weight for 24 hours. Start with a light weight at first and add to it as the cheese presses down. This quantity of milk will make a cheese weighing two and one-half pounds.

Cheese thus made is as good as the usual commercial product. In winter it is not very yellow. This paleness can be remedied by using butter coloring. One teaspoonful to one gallon of milk gives the proper color.

I had a half gallon of milk to dispose of daily. I started making cheese out of it the 15th of October. At the end of the first week in November I had 30 pounds of cheese on hand. There is a ready market for this product. Cheese is one of the best meat substitutes. While the American people are notoriously small consumers of cheese, the present high prices of meat are turning them to it more.

The old family cow is doing her part to support the nation at this time when everything is high and there is a call for saving in every line. A home-made cheese press of this sort solves the problem of using the extra milk.

Wheat vs. Machinery Prices

I cannot resist the temptation to comment on Mr. Hoover's article on matters affecting the producer in your paper, dated June 1st. In the first instance, as to exports, I can agree thoroly with Mr. Hoover, but as to the regulation of price of one of these exports, which is the wheat grown by the western producer who is a long ways from market, there has been, I claim, a very unjust discrimination.

It costs the western grower just as much to grow wheat as it does the eastern grower who is close to market, and anywhere from 30 to 40% more for machinery with which to grow it, and for that reason, if no other, I claim that the price of wheat should have been $2.20 at the terminal, instead of Chicago. As it is, the western wheat raiser pays the freight on his own wheat as well as an additional increased freight on machinery. I priced a header yesterday at our local dealer's and found the price to be $430, as compared to $275 before the time of price-fixing, or an increase of $155; nearly 35% increase. Now how much of this goes to the manufacturer I do not know, but I know that it is more than 10% on his investment. I would gladly turn over my farm, livestock 100 head, and machinery to the government for the period of the war for 9% on the money invested, and will operate it at my own expense. I intend to help win the war.—Chas. B. Wilson, Holyoke, Colo.

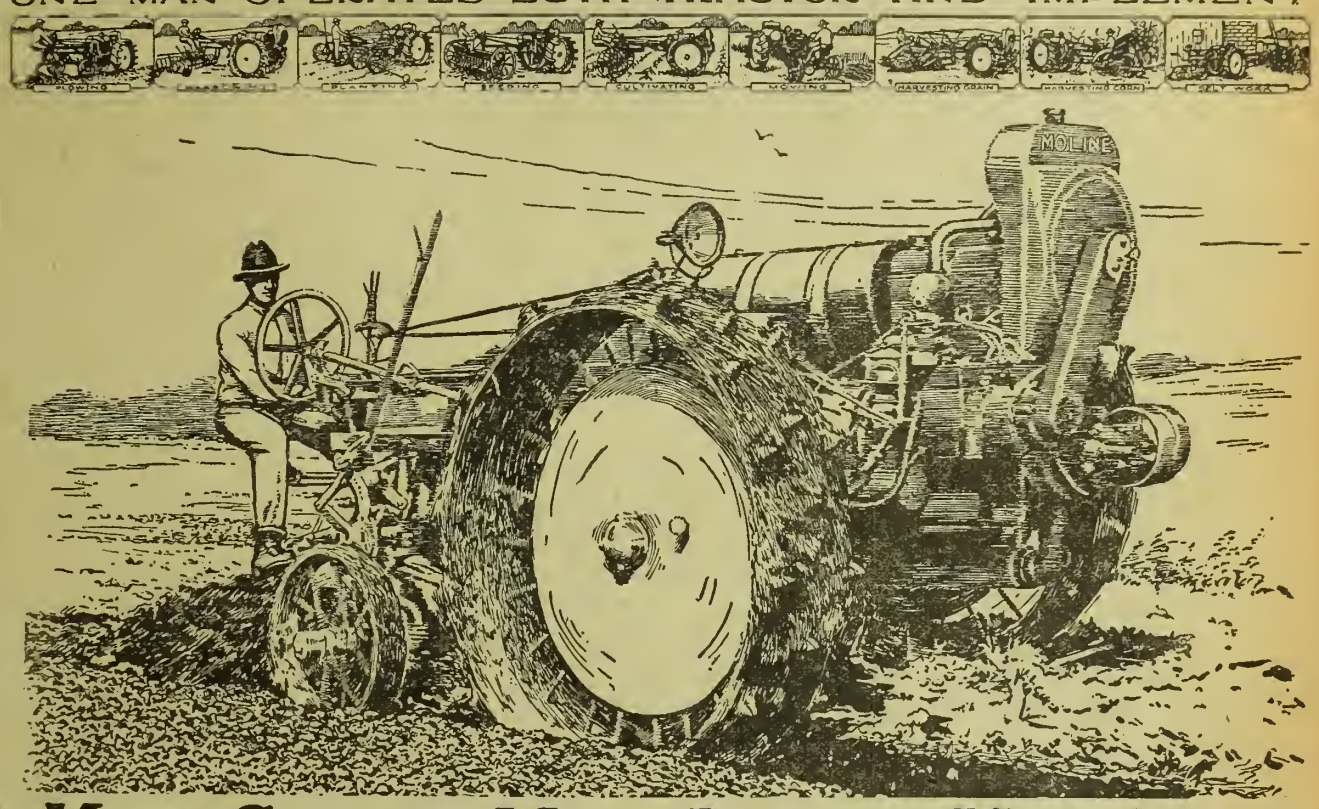
Cow's Cough Not Serious

We purchased a 12-year-old Jersey cow and next day after bringing her home heard her cough. She has continued for two weeks, ever since we have had her. One forenoon was working near the yard, so kept count, and she coughed eight times. I called up former owner, and he said she never coughed while he had her and he owned her since she was a two-year-old. Is there some remedy for cough? She eats well and seems to relish her food. Has alfalfa grain and potatoes. Would reaching over too high a manger cause cough?—J. K., Weld County.

It is not at all uncommon for cows to cough when there is nothing seriously wrong with them. Cows cough from indigestion, from pressure on the windpipe in reaching over the rack for their feed, and from irritation in the throat incident to eating dusty hay, etc. A cough in case of the cow is not a special indication of tuberculosis. If tuberculosis is suspected, it will be well to have a veterinarian give the tuberculin test. Coughing eight times in half a day should cause no harm. Since she eats well and seems to relish her food, she is in all probability in good health.—Dr. Geo. H. Glover, Veterinary Department, Colorado Agricultural College.

The maximum price at which farmers may sell cattle for slaughter in Switzerland has been fixed at 23 cents per pound on the farm. Maximum prices for meats have also been established.

ONE MAN OPERATES BOTH TRACTOR AND IMPLEMENT



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EVERY farmer who sees the new Moline-Universal Model D plowing is astonished at its speed, the splendid quality of work and the ease at which it operates. After seeing the Moline-Universal work, you will realize that the number of plows pulled is less important than the amount of work accomplished.

Great Capacity for Work

Speed, power and light weight are combined in the new Moline-Universal tractor to a remarkable degree.. As a result, under any ordinary plowing conditions, the Moline-Universal pulling 2 plows at 3½ m.p.h. will plow 9 acres in a 10-hour day—equal to a 3-plow tractor traveling 2¼ m.p.h., the usual tractor speed. Thus the Moline-Universal gives you large capacity for heavy work, ample power for all belt work on the average farm, with these distinct advantages over other tractors—light weight; greater economy and ease of operation; ability to do all farm work, including cultivating, and ONE-MAN control of both tractor and implement from the seat of the implement, where he must sit in order to do good work.

Does Better Plowing

An advantage of speed plowing is the better quality of the work. With properly shaped moldboards and the Moline-Universal tractor plowing at 3½ m.p.h. the soil is more thoroughly pulverized and compacted than at slower speeds. It is left in such a level and fine condition that furrow marks are hard to distinguish.

Positive Reliability

And keep this in mind always—the Moline-Universal is built for positive reliability. The powerful 4-cylinder, overhead-valve, vibrationless engine delivers full 9 h.p. at drawbar and 18 h.p. on belt; unusually large bearings lubricated under 35 lbs. pressure; Remy electric starting, lighting and ignition system with governor generator; all moving parts completely enclosed; 15 Hyatt roller bearings; 5 adjustable ball thrust bearings; 7 splined shafts; differential lock; heat treated and steel cut gears—these give "positive reliability," and make the new Moline-Universal the best tractor money can buy.

Self Starter and Electric Lights

Self starter relieves the back breaking strain of cranking, makes tractor operation easy for non-robust help. In fact, many women and boys are successfully running Moline-Universal tractors. The self starter is a feature every overator will appreciate. Electric lights increase the working capacity of the Moline-Universal so that you can use the tractor night and day in the busy season. It gives you an emergency power always available to make up for any unavoidable delays.

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Your copy of our new tractor catalog which completely describes the Moline-Universal Model D is now ready. A postal will bring it to you, also the name of your nearest dealer. Address Dept.107.

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A Disciplined Democracy

Some of the economic aspects of the war were discussed by Dr. T. N. Carver of Harvard university during a series of lectures given before the Agricultural college summer session at Fort Collins in June. The temperance question was touched on in the lecture, which the writer of these lines had the privilege of hearing. It was a calm, dispassionate analysis of the results of intemperance that burned its lesson more deeply into the consciousness of the auditor than any fiery prohibition speech. One came to a natural conclusion that wartime prohibition was not only necessary, but that the lack of it might prove fatal to the success of our arms.

Without intending to quote, we wish to touch on some of the thots given us by the noted economist. Over seven billion pounds of foodstuffs are consumed in the manufacture of alcohol in one year in this country. This, measured in calories, would technically feed 7,000,000 men for a year. All nations at war have had to consider this question from the standpoint of food supply, man power and efficiency.

A nation struggling for life recognizes that it cannot trifle with this question. Some may say there are other vices as bad as drink, but Dr. Carver asked us, would we rather ride behind an engineer under the influence of liquor, or one who was addicted to any of the other vices? Anything that destroys the sense of responsibility and dependability is dangerous.

Looking at the question from the standpoint of non-essential industries, the speaker asked us if we could think of anything less essential to the winning of the war than the continued use of intoxicating liquors. Chemists agree, he said, that alcohol is only food in a technical sense and, therefore, the use of food products in its manufacture is not an economical use of such products.

Other phases of the war were touched on in the same fundamental way. So, for example, the speaker urged us to consider the waste there is in "competitive consumption"; that is, the effort of trying to keep up with our neighbor. Competitive production is always good, even tho it bring reward in great wealth to some. This wealth, when again put to productive uses, is serving humanity, but when used for self-indulgence it constituted a wrong against society.

Disciplined nations, he said, had always governed the world. And a nation governed by autocratic discipline from above will overcome an undisciplined nation, regardless of its form of government. Democracy must learn self-discipline. There is nothing more democratic than a mob and its action is practically unanimous, for there is only one dissenting vote at a lynching bee, yet the democracy of the mob is thoroly bad. We must learn to govern ourselves; to live austere lives of sacrifice and unselfishness. This is a war of nations, not alone of armies, and discipline must extend from the trenches back to the people at home, if we would win.

Pondering on the ideas expressed by Dr. Carver, it is a healthy sign to note that the nation is voluntarily disciplining itself in many ways; that a majority of the people are willing to submit their selfish desires to the will of the nation. To give lives, to give means, to live simply is a good beginning. To submerge the will of the individual in the good of the nation merely thru the spur of an aroused national feeling shows that the vision of a disciplined democracy is dawning on the national consciousness. The stronger it glows the quicker it will be "Over, Over there."

✦ ✦ ✦

The Lamb Feeding Situation

There is nothing like being forehanded, especially after suffering punishment for failure to take the future into consideration. So this year the lamb producers of Northern Colorado are laying their plans early. The industry of lamb fattening is a highly specialized one and one that was misunderstood by the food conservationists of the east until they found out that "Eat No Lamb" was helping the enemy instead of ourselves and our allies. At the eleventh hour of the feeding season last winter orders were issued restoring lamb to the American table and the result was that feeders came thru fairly well, after what promised to be the most disastrous season in the history of the industry.

To avoid a repetition of the experiences of last season the lamb men are going carefully over the ground this summer before deciding on the extent of their operations. There has been a big lamb crop on the ranges, estimates running all the way from 50 to 120 per cent above normal, the latter figure applying to some Idaho sections.

This looks like overproduction. Should there be any hint at all from Washington of putting any restrictions on the consumption of lamb next winter, few feeders would venture to tackle the game, because of the peculiar situation regarding corn prices which prevailed in the past season, when, in the face of an expected abnormally large corn crop, we suddenly found that much corn was soft. Corn followed the natural course of the market and shot skyward beyond all reason, putting its cost way out of proportion with the fixed price of wheat, which grain had, heretofore governed the market.

The situation just now shows a fair prospect for corn, altho the acreage is much smaller than in 1917. The production of barley, which is a western corn substitute in lamb feeding, and a very satisfactory one, is yet too short to be taken into account as an important factor in fattening lambs. It looks as if we were to have all the alfalfa needed and about the normal supply of sugar factory by-products for lamb fattening. The undetermined factor is the price of corn. With a big lamb crop in sight feeders will not be inclined to go heavily into the business, if they have to pay outlandish prices for corn.

Lamb is not suitable for export, but for a limited period of the year it will take the place of beef and pork on American tables. The wool clip from these lambs is as urgently needed as the meat, and the lambs are needed to consume hay and sugar beet by-products on irrigated farms.

Right now is the time for lamb feeders to get together and lay their plans, put their problems up to the Food administration and clear the way for operations next fall, so that they will not act blindly, as they did last fall. If the feeders stay out of the business it means tremendous losses to the range men and a blow to the wool industry that will be keenly felt by the government. There is no way of taking care of the surplus lamb crop except by eating it, and when that source of income has been eliminated, the range man will find the wool business poor picking. The price of wool has been fixed, the consumption of meat has been strictly regulated, the wheat price is fixed; but corn remains the uncertain factor, and corn is our largest cereal crop.

Corn played havoc with feeding operations last winter, both in beef and lamb making, and it should not be allowed to repeat the operation, because we have had our warning.

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Your Town and My Town

A farmer writing to the Wiggins (Colo.) Courier on the subject of the location of a county high school, utters a truth that will bear repetition when he says: "I am not interested in Wiggins any more than any citizen should be, but that is where I get my mail, my machinery, my groceries, my drugs, my shave, my paper, my train service and, above all, my credit. That is where I sell my produce of all kinds. It is my town, and it is your town."

The communication was signed by A. K. Dickson, who lives eight miles from Wiggins. In a community where this spirit of co-operation prevails there is no fight between town and country. It takes unselfishness on both sides to bring about such co-operation, and where this is accomplished both town and country prosper in the truest sense.

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Wasted Wheat Brings $500

It happened in Pawnee county, Kansas. One day last fall at threshing time, a farmer asked one of his neighbors for permission to follow up the machine. He thought it might be possible, he said, to clean up and collect the grain where the thresher had stood in sufficient quantity to earn a little money.

The neighbor smiled, but as he was in easy circumstances himself and unaccustomed to a penny-saving policy, he good-naturedly and half- pityingly agreed to the proposition.

Threshing started and for three weeks the man followed the crew. He had only one team and a fanning mill —nobody to help him and many to laugh at him. He worked so persistently, however, that one evening the friend came around, curious to find out what the result had been.

"Well, in the three weeks' time," he said, "I averaged exactly $27.77 per day for myself and team. I sold that wheat which would have been wasted and got $500 for it."

It was actual savings like this which suggested the work of the Grain Threshing Division of the Food Administration Grain Corporation. Hundreds of cases were studied, showing losses which in 14 southern states were estimated at more than seven and a half million bushels last year. But the financial loss, though large, is less important than the loss of food. Waste of wheat means that the war will be prolonged.

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A Novel Cutworm Raid

Fifty cutworms was the price of admission to certain moving picture theatres, at Trinidad, Colo., for a time recently. This peculiar arrangement for the benefit of boys and girls was brot about by a war on these destructive garden insects, organized by Prof. John F. Sinclair, teacher of agriculture in the high school and garden supervisor for the city of Trinidad. Drastic action was necessary because many gardens were being damaged by cutworms. The losses in killed to the cutworm tribe thru the movie raid was estimated at over 100,000.

If there were moving picture theatres in the country the idea might be applied to the destruction of grasshoppers, tho the price of admission would have to be high, or the picture men would find their houses continually crowded with farm boys. It might aid in keeping the boys satisfied with farm life.

Shipments of rice from China to the United States increased greatly during 1917 and according to present indications will break all records this year.

All private stocks of olive oil in Italy in excess of actual family needs have been requisitioned by the government.

Every producing farm is a dynamo of victory.

The Branding Iron

Applied by Elias M. Ammons

The Federal Farm Loan Bank has loaned $2,000,000 on Colorado farms the past year.

* * *

Some of the magazines are calling attention to the fact that the kaiser's family is the only one in Germany that hasn't lost some one in the war. It may be added it is also the only family that has anything to gain by the war.

* * *

Every Coloradoan is patriotic in crop raising, except the weather clerk. Wake up Brother! Don't be a slacker.

* * *

A bunch of German raiders killed in the American trenches the other day wore the insignia of the skull and crossbones. Grow a little more meat and wheat boys to keep that sort of "Culture" from spreading over the earth.

* * *

Down in Oklahoma the other day an old Indian came to town and learned for the first time that the country was at war with the Germans. "Huh!" grunted the old warrior, "Just to think there was a German at my house the other day and I could have killed him just as well as not."

* * *

Colorado Agricultural College is now training over two hundred recruits for special duties in France.

* * *

While Germany is straining every nerve to break thru the Western front to seize Paris, and the Austrians using Herculean efforts to smash the Italian defense before sufficient American troops can be transported to stop them, let us cease asking that the soldiers be returned from the training camps to grow meat and bread to feed themselves while they are fighting in France. There are enough of us left here, if we shall use half the energy required on the battle line, to grow the food needed for the army and our people The faster we send men to France the sooner the war will be over.

* * *

There are more than 10,000 Indians in the American Army and from the several tribes in the country, $15,000,000 have been subscribed to Liberty Bonds.

* * *

Grub-stake your home from the farm and garden; the railroads must carry food and munitions for soldiers.

* * *

The farm as well as the front needs men who see straight and shoot straight.

* * *

The movement started by the Agricultural and Live Stock Bureau of the Denver Civic and Commercial Association to bring about better co-operation between the farmer and the business and professional men of the cities and towns is praiseworthy. Many farmers have land and equipment but need cash. Numerous business and professional men would like to assist in greater crop production. The special project of the bureau under Mr. A. J. Simonson's committee, to interest business and professional men having no land of their own, to aid farmers in raising more wheat and beans, is deserving of success. People generally, recognize the advisability of greater food production and wish to help. The present plan provides a practical way, and will probably be extended to many communities in the state.

Efficient Dairy Help.

"Want a job on a dairy?"
"Yep."
"Ever have any experience?"
"Yes."
"What do you know about cows?"
"Well—you have to be careful or they'll kick over the bucket."
"Anything else?"
"Sure—you drive them out in the morning and they come back loaded with milk and cream."
"What food value is there in alfalfa?"
"I don't know—I never ate any."
(Next applicant, please.)

—Hoard's Dairyman.

Buy War Savings Stamps.

Comment by Farmer Putnam

OUR MISSOURI FRIEND HAS A GOOD TIME AMONG LARIMER COUNTY FARMERS

RAMBLIN' around in a ford with them county agents is hard work, but I got to do it to earn my salary. I was tellin' Josephine that I kind-a felt like I wasn't doin' my bit fur the country if I didn't stay on the ranch this summer, but she sez:

"Now, Tom, don't you worry none about your country; we'll try to struggle along and win the war without your help. If you really want to be patriotic you just keep outen our way and let me and the boys produce the crops."

That's how it come about that I come down outen the hills and went scoutin' around over Larimer county with Mr. Bascom, the county agent with the follerin' total results: 2 ranch dinners, 1 camp supper, 2 lbs. Jersey butter, (From Bishopp's Mile High Jersey Ranch.—Adv.) 6 invitations to dinner, (to be accepted later if possible.) This ain't so bad fur a coupla days' trip. I ain't a-goin' to try to describe everything I seen, but will give a few of the high places, them dinner stops and such like important items.

We managed to git to Rodgers' ranch out north of Wellington just about 12 o'clock high noon, by accident. That is, we wasn't sure just who'd git ıe pleasure of entertainin' us at 12 o'clock, but we was runnin' on our luck ıd we sure struck it right. Our plan was to accept a invite fur dinner herever the clock struck twelve, if they was a ranch nearby, and not to run ıst any place after 'leven thirty. We sure found them Rodgerses fine folks ıd while all the grub deserves special mention, I got to say that fur butter-ilk I never drunk anything to beat it. I have to go to Denver lots of times ıd I go in them drug places and buy buttermilk, or such as they calls butter-ilk, but say, they's just about as much difference between that drugstore uff and the kind Mrs. Rodgers served as they is between near bear and not ear beer.

Chunks of butter that would be worth ten cents a piece in a city store ıs floatin' idly around in the butter-ilk, waitin' fur somebody to swaller n. Did you ever drink that kind of ıttermilk, with a tang to it? While 'allerin' them golden lumps you uld shut your eyes and see the green edder with the cows a-browsin' on e hillside and the bees a-hummin', e meadow larks a-twitterin', the chip-unks a-chippin', and all natur' smil-' at you thru the bottom of the glass. me feller that's been dead a long ne onct was speakin' of whisky as e beverage that paints landscapes on e brain of man, and I reckon whisky responsible fur a good deal of paint-in', but it's mostly red. When it comes to landscapes with the green of the grassy carpet and the blue of the sky predominatin', why butermilk is far ahead of any drink, and it don't leave no after effects.

They was a feller named Kerr with us. He was out lookin' over irrigation fur the Federal Land Bank, and him and Bascom done the buttermilk full justice, likewise myself. We was also treated to some of the homemade cream cheese that Mrs. Rodgers makes.

Well the next day we landed up clost to the Wyoming line just about dinner time and we run in on Ed Shaffer. He's got a 3,000 acre mountain ranch. After seun' down with the folks to dinner, which was our principal business, I took a look over the place. You know I'm kind-a looney about that Stove Prairie country, where I write from, but I got to say it, when it comes to looks, Shaffer's valley has got Stove Prairie skinned, and that's goin' some. They lives in one of them long, ramblin' ranch houses and just a little ways back of the corral is the openin' of a canon. It's their own private canon, fur besides a fine hay and stock ranch they owns enough scenery fur a national park. Beauty ain't no name fur the medder, thru which the creek and the water system runs. They is a hundred different kinds of flowers in bloom, some iris that you couldn't buy in a hot house, it's so pretty and blue, some red blossoms, some purple, some gold, some white. Bees is buzzin' around over the blossoms; you kin hear the rush of the breeze from the canon, where it blows thru the spruces; towerin' red rock walls runs back from the house like a protectin' fort and white clouds tips the tops of the snow mountains in the distance.

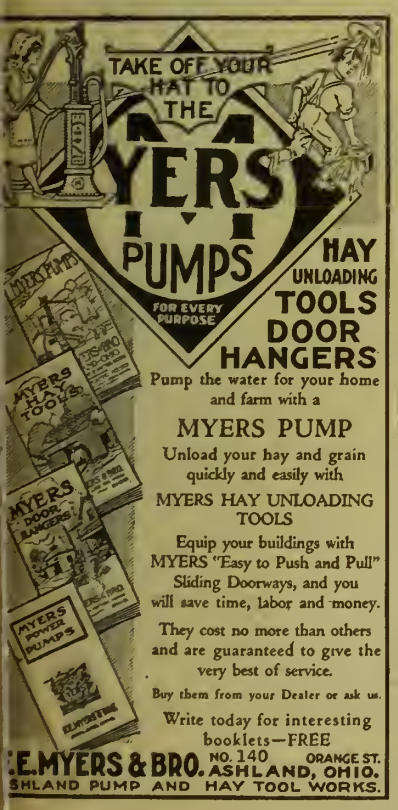
That's kind-a poetick ain't it? You-all didn't think I could write about them pretty sceneries that I come acrost in my travels because I'm so durn practical, but onct in a while I git carried away with nature and I got to rip out some high soundin' words. Ed Shaffer asked me how I liked the place and, friends, I ain't stringin' you when I sez it's impossible to tell how nice it is in words.

Well we drove on after dinner and landed down to Glen Bishopp's Mile High Jersey Ranch. (Adv. paid for in butter. Other subscribers please take notice.)

I've knowed Bish. ever since the days when Prof. Carlyle was up to the Agricultural college, at which time I took the two weeks short course fur my degree of M. N. (Master of Nonsense.)

Bishopp is one of them college graduates that went back to the home ranch and applied what he learned about livestock. He decided to take up Jersey breedin' at high altitude, because, hav-

Turn to Page 15



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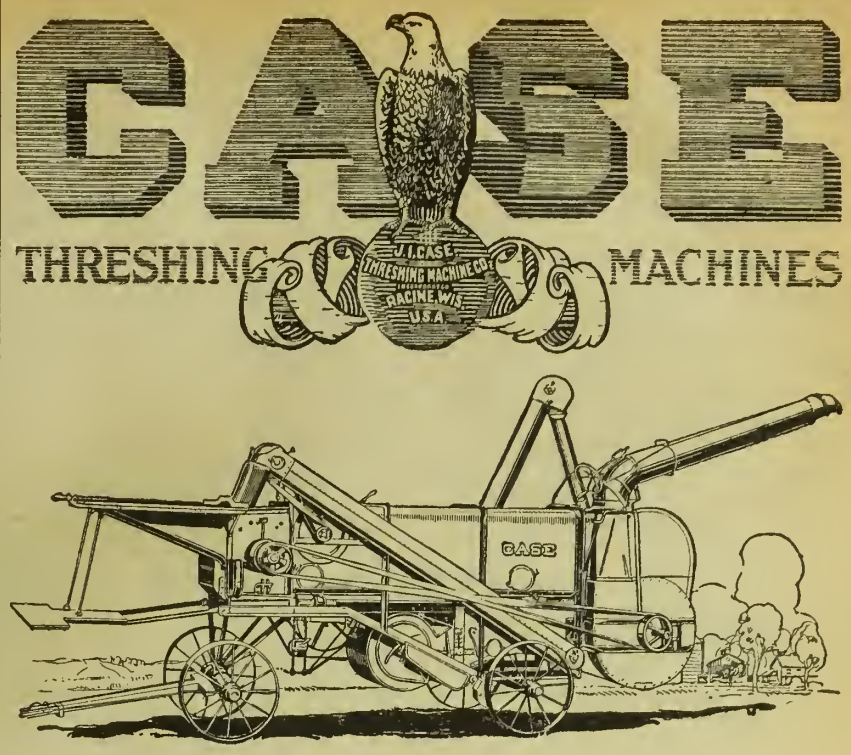

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With such a combination you can do your own threshing, when you want it done. No need to wait your turn. Thresh exactly when you want to, thereby taking no risk of crop losses on account of bad weather. You can handle a few jobs for neighbors too, if you wish.

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This small model is just as efficient as the other Case Threshers, famous for 76 years. It, too, is built of steel. It is simple in design, sturdily built and lacks all complicated parts.

You will note that it is freed from a multiplicity of gears, pulleys, belts and other moving parts that eat up power.

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Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Dairy Farm Leases

The so-called half-and-half system is the most common in use and the most satisfactory in renting dairy farms in representative dairy regions near Chicago studied by farm management specialists of the United States Department of Agriculture. Generally speaking, under this system the landlord supplies the land, the tenant the labor, and each shares the expenses and income equally. The study was made on 143 farms in Green county, Wisconsin, and Kane county (the Elgin district), Illinois, where dairying is a comparatively old, well-developed and profitable industry. In the report of the study, published as Bulletin 603 of the department, it is brot out that while this system is particularly applicable to the regions studied, it is believed to be suitable in dairy sections generally.

Under the half-and-half system the landlord furnishes the land, buildings, the greater part of the seed and fertilizer, and half the productive stock, while the tenant furnishes horses, machinery, half of the productive stock, part of the seed, and sometimes part of the fertilizer. All stock is fed usually from the grain and hay owned in common. When a feed of any kind is bought, its cost is shared equally between landlord and tenant. In general, each party pays the taxes on all property owned by him, including the farm-road tax, tho in many cases in the north central states all the farm-road tax is worked out by the tenant.

Under this system the poultry frequently is owned exclusively, in limited numbers, by the tenant, and he gets the proceeds therefrom, but with this exception each party generally receives half the proceeds of farm sales of all products of whatever nature.

Less frequently dairy farms are share-rented on the third system, the landlord supplying everything but the man power, which is furnished by the tenant, and getting two-thirds of the sales of all products, while the tenant receives one-third. When feed is purchased the tenant pays one-third of the cost.

The length of lease in the regions studied ranges from one to five years. In the Wisconsin district 76% of the leases were for one year only, none being for a longer period than three years, while in the Illinois district 63% of the leases were for one year. In the Wisconsin group 35% and in the Illinois group 27% of the leases were verbal. Seventy-five per cent of the farm income on the farms of the Wisconsin group and 85% on those of the Illinois group was from dairy cattle and dairy products.

Digging a Trench Silo

A subscriber in Las Animas county, Colorado, sends us an article clipped from a local paper, describing the method of building a trench silo and asking us for an opinion regarding that type of silo. The article, he states, was furnished by the county agent, Charles E. Smith. In answer we would say:

Build a silo. If you cannot afford anything better than a trench silo, build that, but build a silo. If you can do a little better than the trench, make it a pit silo. It is the next thing in the way of cheapness and much more satisfactory, for a well-built pit silo is a real silo, while a trench silo is a makeshift. This is the way to build the trench, according to the Las Animas county agent's advice:

Take a team and scraper and dig a trench 8 or 10 feet wide and as long as necessary to include amount of crop you have to put in. Make the sides perfectly smooth and straight and dig it down to 10 or 12 feet in depth if possible in cases where the rock is not nearer than this to the surface. When the corn and cane are ready to harvest, take it green from the field and lay it lengthwise in this trench, treading it down as solidly as possible. This may be done with a horse in this kind of a trench. To take it out, a hay knife can be used to cut it down on the end as much as will be needed for each feeding.

This kind of a silo costs nothing but the work and will last for two or three years if it is well cared for. If anyone has any doubt about the feed which can be cured in this way they should talk with Mr. C. J. Stutler at Atwell. Mr. Stutler has a good herd of Holstein cows upon which he depends for a living. Last fall Mr. Stutler had a quantity of small corn, but before cutting it he dug a round silo 8 feet deep and 12 feet in diameter. He cut his small corn and hauled it to this little silo, treading it in as solidly as possible. The amount of spoiled silage which he had, while a little more than if the material had been cut, was still quite small, and he was very well pleased with the feed which he saved in this way.

Now if straight stalks can be treaded into a round silo and preserved for feed, certainly they can much better be laid straight in one with straight sides. If the farmers raising feed will place half or more of it in this kind of a silo, providing they cannot build another one, we believe that they will be so well pleased with the project that they will never again be without silage.

Dehorning the Young Calves

Compared with practice of clipping or sawing off the horns after the animals are older, the use of caustic potash when calves are young is more humane, requires less time, and carries with it no danger to the animal such as that caused by hemorrhages and infection by flies. It can be done at any season of the year, and the animal is too young to suffer any severe setback in growth, as no excessive bleeding results.

Stick potash is preferable to the caustic solution, as the latter is likely to run down and sear the skin and hair, and may also get into the eyes. The method of procedure is outlined by M. H. Fohrman of the University of Missouri College of Agriculture. Clip away the hair around the rudimentary horn, make a slight cut in the soft horn with the shears, and then apply the caustic by rubbing the tip of the stick on the "button" until it becomes moist, red or shows signs of bleeding. Be sure that all parts of the horn are burnt in the process, otherwise scurs and stub horns will grow later. After the treatment has been given do not allow the calf to stand out in the rain, as this may result in the same danger which accompanies the use of caustic potash solution.

For the man who raises his own heifers, this is unquestionably the best system of dehorning, and in addition it leaves no unsightly stumps. Of course, dehorning detracts from the show-ring value of an animal, but nevertheless it makes the animal easier to handle and less dangerous to the other cows in the herd.

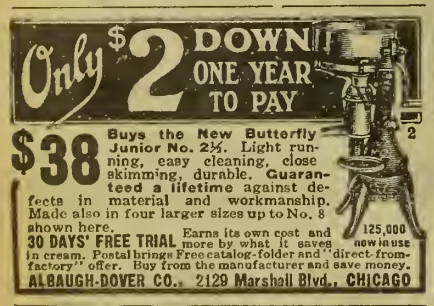
Holstein-Friesian Prizes

Following is a list of the special prizes offered by the Holstein-Friesian Association of America for fairs in the states served by Western Farm Life:

Colorado—

Colorado State Fair, Pueblo, Colo. Twenty-five per cent cash to be paid on the general classification.

Intermountain Live Stock Show, Grand



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These are the days of the full milk pail.

But if you are trying to get along without any cream separator, or with an inferior or half-worn-out machine, the more milk you get the more cream you lose.

And no farmer can afford to lose even a little cream when butter-fat is selling at from 40 to 50 cents a pound.

With butter-fat at present prices, and our country begging us to stop waste, "cream slacker" methods of skimming milk must go.

Get a De Laval right away and put all the cream in the cream can.

There is no other cream separator that can compare with the De Laval in clean skimming, capacity, ease of operation, freedom from repairs and durability.

Order your De Laval now and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on such liberal terms as to save its own cost. See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below.

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Time and again cattle have sold on the Denver market for higher prices than the same cattle would bring same days at the Missouri River.

Why don't you market your cattle and sheep at Denver, where they will bring you greatest net returns!

ALFALFA SEED FOR SPRING SOWING. From locality where it grows best and most abundantly. Our seed won the Gold Medal at the St. Louis World's Fair, in competition with the world. We also handle White and Yellow Sweet Clover. Write us for prices and free samples. Address MoBETH SEED HOUSE, 320 Main, Garden City, Kan.

Junction, Colo. Silver cup for best display of Holsteins and the same for the best Breeder's Young Herd.

National Western Stock Show, Denver, Colo. Silver cup for best display of Holsteins and the same for the best Breeder's Young Herd.

Western Slope Fair, Montrose, Colo. Silver cup for best Aged Herd and the same for the best Breeder's Young Herd, bred within the jurisdiction of the society.

Idaho—

Northwest Livestock Association, Lewiston, Ida. Twenty per cent cash to be paid on the general classification.

State Fair of Idaho, Boise, Ida. Thirty per cent cash to be paid on the general classification. In the Butterfat Test, a silver cup to the prize winner, if a registered Holstein.

New Mexico—

New Mexico State Fair, Albuquerque, N. M. Fifty per cent cash to be paid on the general classification.

State Live Stock & Products Exposition, Roswell, N. M. Silver cup for the best registered herd of Holstein-Friesian cattle.

Utah—

Utah State Fair, Salt Lake City, Utah. Thirty per cent cash to be paid on the general classification.

Wyoming—

Wyoming State Fair, Douglas, Wyo. Silver cup for best Exhibitor's Herd of registered Holstein-Friesian cattle.

Milking Machines Save Labor

The shortage in labor is causing more interest than ever in the milking machine. Milking machines have been on the market more than 25 years but some of them have not been successful. As a result of years of experimenting, machines are now on the market that are past the experimental stage. Milking machines are giving the best satisfaction in hands of many users while others soon discard them. The successful use by many shows that the machine is all right when properly used. Experience has shown that the milking machine saves a great deal of labor, making it possible for one man to milk 25 to 30 cows in an hour, altho extra time is required for cleaning the machine. The machine does not injure the cow in any way and animals prefer machine to hand milking. It is a question whether the cows milked with a machine hold up in milk toward the end of the milking period quite so well as when hand milked, so that the yield for the year may be a little less. Apparently the machine will do better work than poor hand milkers, but it is not quite equal to skilled hand milkers.

IRRIGATOR CAN LEARN FROM THE DRY LAND FARMER

Continued from Page 4

has not been brought to the attention of the farmers as effectively as it should be. It is good as far as it goes, but the men who are superintending the work have little opportunity to come in direct touch with farmers for discussion of problems that are being worked out.

Furthermore, the vital matter of properly guiding the young people on the dry land farms into methods of moisture conservation and drouth resistant crop production is receiving practically no consideration. Agricultural teahing in our colleges and rural high schools includes only incidental mention of a phase of agriculture that is the backbone of farming in this region. Mr. Parsons has well pointed out the relationship between dry land and agriculture under irrigation. He calls attention to a fact which is beginning to receive recognition in the irrigated districts, namely that over-irrigated land must be redeemed by dry farming methods.

Another phase of the question comes to light in a recent statement by Secretary of the Interior Lane, discussing provision for the vast numbers now constituting our armies, on their return to the occupations of peace. Thousands of these men will want farms, and the secretary says they can be provided for on the cutover lands, the swamp lands that can be drained and the dry lands that can be irrigated. He is urging an appropriation from Congress to enable his department to make a careful survey of the entire country, to determine the quantity and nature of lands available and the methods that must be applied to make these lands productive. He says nothing about the semi-arid lands except in relation to irrigation, and overlooks the fact that literally millions of acres of such lands have been brought under the plow by dry farming methods. He forgets, apparently, that it will not require an outlay of millions for gigantic water storage and distribution systems to make these lands productive, and overlooks the fact that there is absolutely no hope for bringing vast areas under irrigation because the water is not available. He passes up this important angle of the situation just as others have passed it up, all because dry land farming has been able to help itself.

Isn't it about time that those in authority were taking cognizance of the progress made by dry land agriculture? The people who are making these lands productive are doing it in the face of discouragement, without aid from the Department of the Interior, and with only scant help from the Department of Agriculture.

Read further what Secretary Lane says:

"I will undertake to present to the Congress definite projects for the development of this country thru the use of the returned soldier, by which the United States, lending its credit, may increase its resources and its population and the happiness of its people with a cost to itself of no more than the few hundred thousand dollars that it will take to study this problem thru competent men."

Let the members of Congress from Colorado and adjoining states that have dry farming land (millions of acres held out of use) get the ear of Secretary Lane and have him include in his plan the settlement of these idle lands. And let the legislatures of this and other western states provide for state aid in spreading knowledge of dry land methods thru experimental work and direct teaching. It is time we were getting over the habit of thinking our dry land agriculture the least important of the two branches. It is of far greater importance, because the irrigator must recognize and apply its principles if his form of farming is to endure.—A. T. S.

New Wheat Disease

Your letter of inquiry in regard to the new wheat disease has been referred to me for attention. This disease has been found in Colorado tho it is not greatly abundant at the present time. So far as our information goes it has been found in the following states: Texas, Oklahoma, Arkansas, Missouri, Kansas, Nebraska, Iowa, Wisconsin, Minnesota, North Dakota, South Dakota, Colorado, Montana, and California. This is a bacterial disease affecting the heads more than other parts of the plant. The scales enclosing the grain are discolored and affected plants produce shriveled grain. Frequently, every shriveled grain of a diseased head carries the bacteria either on its surface or as a thin film or in lesions in the interior of the kernel. The control which we recommend for the disease at the present time is that of screening out all shriveled kernels. The usual seed treatment for the prevention of smut should also be effective in the control of this disease.—H. E. Vasey, Colorado Experiment Station.

The more conspicuous signs of the disease are brown stripes on leaves, or many whole leaves dead in advance of maturity; black stripes on stems, especially the upper parts, and often on all sides, so that the stem is nearly girdled in advance of the ripening of the grain; a dark stain on the joints of the spike and parallel black lines or stripes on the chaff; the beards of the wheat are also often black in whole or in part. Frequently there is a yellow bacterial ooze from leaves, stems and heads, in the latter case both to the surface and inward over the grains.

On War-Time Prohibition

Farmers organizations all over the country have voiced themselves unequivocally in favor of wartime prohibition, and strong pressure has been brought to bear on the government to stop the sale of all intoxicants, especially for the reason that great quantities of grain are being used in the manufacture of beer. An official statement has just come from the office of the United States Food administration on this question, which is of interest to all readers:

As to the discussion over the suppression of brewing, I wish to say emphatically that from a strictly food conservation point of view I should like to see the use of foodstuffs suppressed in all drinks, hard and soft. This is not, however, the whole story. We stopped distilling a year ago. There is a long supply of whiskey, gin and other 20% to 40% distilled drinks in the country. We have reduced the consumption of foodstuffs in brewing by 30% and reduced the alcohol content of beer to 2¾%. If we stop brewing, the saloons of the country will still be open, but confined practically to a whiskey and gin basis. Any true advocate of temperance and of national efficiency in these times will shrink from this situation, for the national danger in it is greater than the use of some 4,000,000 bushels of grain monthly in the breweries. If the American people want prohibition, it should prohibit by legislation to that end and not force the Food administration to the responsibility for an orgy of drunkenness. It is mighty difficult to get drunk on 2¾% beer; it will be easy enough if we force a substitution of distilled drinks for it.

The Food administration has gone as far as it can towards temperance without precipitating a worse situation. If the American people or Congress will stop the sale of distilled liquors, the Administration will find no difficulty in stopping brewing.

All Milk Outlets Open.

Milk is plentiful this year in nearly all parts of the country and every possible outlet has been opened to secure its full utilization without waste. Ice cream makers and condensers are getting their full and regular supplies of sugar and the public is asked to use milk freely.

The fact that some dairy products have accumulated in storage should be no cause for alarm but rather a source of satisfaction. It must be remembered that no one can tell what turns the war may take. Seasons are fickle and the Allies depend on North America to protect them against famine. The food administration is consequently asking the American people to eat those things which are plentiful and will not keep well in preference to foods that can be shipped or saved for an emergency.

She also serves who stoops and weeds.

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To introduce our Famous Q. R. S. Player Rolls into every player-piano home we will send you, postage prepaid, your choice of the three sensational roll hits described below. And all we ask is a slight service in return.

These Rolls Are to Be Had Only in the Q. R. S.—
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A LITTLE BIRCH CANOE. Word roll. An irresistible waltz song; also arranged for dancing. Price.....85 cents

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Q. R. S. ROLLS are today a miracle of modern genius. They will more than double the pleasure and usefulness of any player-piano.

HOW TO GET ONE OR MORE OF THESE ROLLS

Fill in the coupon below with the name and address of the owner of an 88-note piano-player WHO IS NOT RECEIVING OUR INTERESTING MONTHLY PLAYER-ROLL LITERATURE, and give the name or make of the player-piano owned. Then check the roll desired and return the entire ad. to us. If you own an 88-note player-piano, AND ARE NOT ALREADY ON OUR MAILING LIST, your own name will be accepted. For each bona fide name sent on a copy of this ad. in accordance with our instruction, you may select another roll. This is a genuine offer from the largest and best known music house in the West. We want names of substantial people, owners of 88-note player-pianos only.

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IF YOU HAVE NO PIANO OR PLAYER-PIANO

We can save you moeny on a new or slightly used instrument. Just now we have some unusual bargains. These will interest you if you contemplate buying within even the next two years. You will be surprised at the splendid values we offer. We arrange easy terms of payment that make ownership a pleasure. Write for full information.

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6-Quart Royal Graniteware Preserving Kettle. Right in the heart of the canning season. Uncle Sam says to can all you can, so get this regular 75c Preserving Kettle QUICK!

Ask for the LOOK BOOK

It's full of similar price-smashing bargains. And YOU MUST BE SATISFIED.

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The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Go back to the simple life, be contented with simple food, simple pleasures, simple clothes. Work hard, pray hard, play hard. Work, eat, recreate, sleep. Do it all courageously. We have a victory to win.—Hoover.

Yes, we may have thought we were doing our best to win the victory, but when we compare our sacrifices with the sacrifices of those at the front, how feeble have the efforts been. The U. S. Food Administration asks us, in freedom's name, to "Use corn, oats, potatoes, barley, rye. Eat honey, syrup, jam, molasses. Eat vegetable fats—corn oil, cotton oil, peanut butter and the like—and so give your wheat, meat and sugar to our boys and the Allies."

Are we obeying all the restrictions placed upon us in the use of wheat, and are as many as possible economizing still further by using no wheat until the new crop is harvested and prepared for use?

The best help the editor of this department has had of late is a card published by U. S. Department of Agriculture, Office of Home Economics, giving the measurements of substitutes equal to one cup of flour. If you have not one of these cards write at once to your County Home Demonstrator, or to the Extension Service of your State Agricultural College. We should not complain that we cannot cook without wheat flour, without having furnished ourselves with every available recipe, direction and caution, so many of which may be had for the asking.

It is evident from many letters received that not every reader is fighting to win, but only waiting for the winner to make it easier for us. If we are true soldiers of the commissary we will put forth every effort to obtain the necessary weapons that we may overcome waste and use our God-given powers that our families may be well and economically fed. Are you helping to make the food demonstrations in your county a success?

While it is not possible to give the author of all recipes published these days, I think the three following were first given by Mrs. M. A. Wilson, food expert of the Philadelphia Ledger. However, recipes given in these columns are tried out by the editor and there may have been made some few changes in the original:

War Bread

One cupful of mashed potatoes.
One and a quarter cupfuls of water
One tablespoonful of syrup.
One tablespoonful of shortening.
One half teaspoonful of salt.
One yeast cake.
Four tablespoonfuls barley flour.
Two cupfuls rye flour.
Mix as given and let raise one and a quarter hours.
Add two cupfuls oatmeal flour.
Add one cupful rye flour.
Corn and Potato Parker-House.

Rolls

One cupful of mashed potatoes.
One cupful of cornmeal.
One teaspoonful salt.
Two teaspoonfuls of baking powder.
One tablesponful of shortening.
One tablespoonful of syrup.
One egg.

Timely Shortcake Recipes

The following wheatless shortcake recipes using substitutes for wheat, were introduced by the U. S. Food Administration and have been found good.

Methods of Mixing—All measurements are level. Mix the dry ingredients, put in the fat and add liquid. For individual servings, place dough on slightly floured board, pat to ¾ inch thickness and cut as for biscuit For family sized portions, place dough in well-greased pan and pat to desired thickness . Bake in hot oven. (450 degrees F. or 232 degrees C.). These amounts will make 12 average servings.

1. Barley Shortcake—One cup of milk, 4 to 6 tablespoons of fat, 1 tablespoon of sugar, 1 teaspoon of salt, 6 teaspoons of baking powder, 4 cups of barley flour.

2. Corn Flour Shortcake—One cup of milk, 6 to 8 tablespoons of fat, 1 tablespoon of sugar, 1 teaspoon of salt, 6 teaspoons of baking powder, 2 2-3 cups of corn flour.

3. Rice Flour Shortcake—One cup of milk; 6 to 8 tablespoons of fat; 1 tablespoon of sugar; 1 teaspoon of salt; 6 teaspoons of baking powder; 2¼ cups of rice flour.

4. Barley-Corn Flour Shortcake—One cup of milk, 6 tablespoons of fat, 1 tablespoon of sugar, 1 teaspoon of salt, 6 teaspoons of baking powder, 1 1-3 cups of corn flour, 2 cups of barley flour.

5. Barley—Ground Rolled Oats Shortcake—One cup of milk, 4 tablespoons of fat, 1 tablespoon of sugar, 1 teaspoon of salt, 6 teaspoons baking powder, 2 cups of barley, 1½ cups of ground rolled oats.

6. Corn—Ground Rolled Oats Shortcake—One cup of milk, 4 tablespoons of fat, 1 tablespoon of sugar, 1 teaspoon of salt, 6 teaspoons of baking powder, 1 1-3 cups of corn flour, 1½ cups of ground rolled oats.

If you have the substitute card mentioned at the beginning of this column, you will observe the comparative use as to weight and measure of the different kinds of flour. For instance, barley is a light flour, so that four cups are needed to weigh the same as 2 2-3 cup sof corn flour, or 2 1-3 cups of rice flour. The editor will endeavor to answer questions asked, altho the answers to some letters will be delayed this month, because of lack of space; but a personal letter will be mailed as soon as possible.

War Sponge Cake

Three-quarters cupful syrup.
Yolk of two eggs.
Four tablespoonfuls of water.
One-half cupful of cornstarch.
Six tablespoonfuls of barley flour.
Two teaspoonfuls of baking powder.
Mix as given and fold in whites of eggs.

What Are We Going to Do?

That's what we are asking as the new requests come before we have granted the lod. Well, there is but one patriotic thing to do—cheerfully adapt ourselves to circumstances—adjust our practices to meet requirements, and as far as possible relieve the strain on the household and we shall be amazed how conveniently we meet new conditions.

Thus we have gone from 30 per cent wheat recipes to 50 per cent and now are learning to use 100 per cent substitute recipes. We had thought it absolutely necessary to use a small amount of wheat flour even for quick breads. The following may be helpful to our readers:

Muffin Recipe

(Old recipe with wheat flour)
1 cup liquid (milk or water).
1 cup wheat flour.
1 cup corn meal.
1 tablespoon fat.
1 tablespoon sugar.
1 egg.
4 teaspoons baking powder.
1¼ teaspoons salt.
(New recipe, no wheat flour).
1 cup liquid.
1½ cup cornmeal.
1 tablespoon fat.
1 tablespoon sugar.
2 eggs.
4 teaspoons baking powder.
1¼ teaspoons salt.

Note: 1 egg is added for binding or thickening. The cornmeal is increased ½ cup and the wheat flour is eliminated. In most recipes for quick breads, the number of eggs may be doubled, the wheat left out and the cereal increased with satisfactory results.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2404—This design has several good style features. The tunic may be omitted. The skirt is cut on straight and comfortable lines. The sleeve may be finished in wrist or elbow length. Shantung, linen or gingham in plain colors, or combined with contrasting material, is nice for this. Satin, fouiard, voile, crepe and batiste also could be used.

The pattern is cut in 6 sizes: 34, 36, 38 40, 42 and 44-inch bust measure. Size 38 requires 6½ yards of 44-inch material.

2149—This model may have long sleeves with deep cuffs, or short sleeves with shaped cuffs. It is a popular, one-piece style, with pouch pockets and a smart sailor collar.

The pattern is good for gingham, drill, linen, poplin, galatea, voile, chambray, percale, batiste, serge and gabardine. It is cut in 5 sizes: 4, 6, 8, 10 and 12 years and requires for an 8-year size 3¾ yards of 36-inch material.

2418—This style is good for khaki, gingham, galatea, drill, cotton, corduroy and seersucker. The trousers are cut in one, with the front of the waist, at the back, waist and trousers are separate. The garment is comfortable, and a splendid "overall" model.

The pattern is cut in 5 sizes: 4, 6, 8, 10 and 12 years. Size 10 will require 4 yards of 36-inch material.

Blouse, 2403—Skirt, 2412—This model comprises Blouse Pattern 2403 and Skirt Pattern 2412. Striped or plaid suiting may be combined with plain material, or vice versa. Jersey cloth, sports satin, serge, gabardine, linen, repp and shantung are good materials for its development. The skirt is a three-piece model. The blouse may be finished with sleeves in wrist or elbow length. The pattern for the Blouse and for the Skirt is cut in 3 sizes: 16, 18 and 20 years. Size 16 will require 6¾ yards of 36-inch material. The Skirt measures 1¾ yards at the foot.

This illustration calls for TWO separate patterns, which will be mailed to any address on receipt of 15 cents FOR EACH pattern.

Summer Butter Making

During the present food crisis it is of utmost importance that every ounce of butter fat used for buttermaking be turned into a wholesome food product with the least possible loss. The buttermaker is cautioned by L. W. Morley of the University of Missouri College of Agriculture to keep the following points in mind:

It is essential to have good milk to begin with. If a centrifugal separator is used it is not difficult to obtain cream of good quality. The cream should be cooled to 50 degrees Fahrenheit before being mixed with the cream from previous milkings. When sufficient cream has been gathered for a churning, it should stand about 12 hours in a temperature of 65 to 75 degrees to ripen. The cream should become thicker and assume a glossy appearance. It should be only mildly sour. Cool to churning temperature (52 to 60 degrees Fahrenheit in summer) and hold for two hours before churning. Too much care cannot be taken to clean churn and utensils and free them from odors. Stop churning when the butter granules are the size of a wheat kernel and drain off the butter milk. Then thoroly wash the butter, using water of about the same temperature as the butter milk.

If the butter becomes too soft the wash water may be a few degrees below the churning temperature. Use about three-fourths ounce of salt per pound of butter. Work sufficiently to dissolve the salt and remove the water, but guard against overworking which gives the butter a salvy texture.

Conservation, concentration, and consecration—for the sake of those at the front.

Buy War Savings Stamps.

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Every telephone connection requires co-operation. The slightest inattention or indifference on the part of the person who calls, or the company that makes the connection, or the person who is called results in a corresponding deficiency in service. Each is equally responsible for the success of the service.

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Accuracy in calling, promptness in answering, clear and deliberate talking, courtesy and patience on the part of both user and operator are essentials of service, and must be mutual for good service.

Efficient telephone operation is vital to the war work of this country. The army, the navy and the myriad industries contributing supplies depend on the telephone. It must be ready for instant and universal use. The millions of telephone users are inseparable parts of the Bell System, and all should patriotically contribute to the success of the service.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
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One Policy *One System* *Universal Service*

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placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent by express prepaid for $1.

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Farmers' and Stockmen's Exchange

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

ANCONAS—THE MORTGAGE LIFTER EGGS, cheap. W. Mustain, Bolivar. Mo.

LIGHT BRAHMA EGGS; 15 for $1.25. FREE paid. Geo Gunther, Rt. No. 1, O'Neal, Ark.

FAWN AND WHITE INDIAN RUNNER DUCK eggs, $1.00 per 13, $3.00 per 50. Mrs. Baker, Box 21, Arvada, Colo.

SINGLE COMB WHITE LEGHORN EGGS, $5 per 100. Barron strain. Satisfaction guaranteed. Frank C. Sutton, Inavale, Nebr.

BABY CHICKS—BARRED ROCKS, REDS, White and Brown Leghorns. 100, $10, prepaid; 40, prepaid, $4.75. Safe arrival guaranteed. Booth Hatchery, Clinton, Mo.

FANCY ROSE COMB RED CHICKS. DEEP red, from Hoganized hens. The kind that live, lay and pay. $25.00 per hundred. Live delivery. We ship. J. Smith, 6139 W 38th ave., Wheatridge, Colo.

PET STOCK

COLLIE DOGS, ALL AGES, MATRONS BRED and open stud dogs and puppies. Frank Davis and Sons, Holbrook, Nebr.

SEEDS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

DWARF KAFIR SEED, 85 GERMINATION, $3.00 per bushel. Oscar Wilcox, Larned, Kans.

SUDAN SEED — RECLEANED, WELL MATURED, 17½c lb. sack free. C. E. Dieffenbaugh, Talmage, Kas.

CHOICE CANE SEED, $2.50 BUSHEL; FANCY Feterita $5.50 per 100. Will ship anywhere. Sacks extra. Farmers' Union, Oronoque, Kan.

FETERITA, $5.50 PER CWT., CANE, SUMAC, Black Amber, $9.50 per cwt.; Sudan grass, $22.50 per cwt. Germination 87 per cent. Delpbos Poultry & Seed House, Delphos, Kans.

PLAINVIEW NURSERY FOR SALE—ONE OF the best paying businesses in the country. A good stock of trees and a good trade. Well equipped for growing nursery stock. Plainview Nursery, Plainview, Texas.

HELP WANTED

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

MEN, WOMEN, 18 OR OVER, WANTED IMMEDIATELY for U. S. Government war positions; thousands clerical positions open; $100 month; easy work. Write immediately for list positions. Franklin Institute, Dept. R-172, Rochester, N. Y.

LUMBER

LUMBER, LATH, MILL WORK. GET OUR direct-to-consumer prices before building. Catalog, plan book free. Contractors Lumber Supply Co., 443 Lumber Exchange, Seattle, Wash.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—20 HEAD OF SPRINGING, HIGH grade Holstein cows. Wilson Counts, Hasty, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Held, Sterling, Colo.

FOR SALE—15-16 GRADE HOLSTEIN HEIFER calves from best breeding, $30, express prepaid. Herbert Taft, Whitewater, Wis.

EXCELSIOR FARM HOLSTEINS—HAVE AN exceptionally well bred show bull 10 months old, evenly marked. Price, $100. Send for pedigree. C. C. Cole, Levant, Kansas.

FOR SALE—85 HEAD DEHORNED MIXED red and white faced yearlings. 60 head 3 and 4 year old dehorned cows; springers and calves by side. Ernest Pankake, Deertrail, Colo.

FOR SALE—WE HAVE 6 REGISTERED HEREford bull calves, Anxiety breeding, born August-September, 1917. The good, heavy boned kind, price $125.00. Also four coming two-year-old bulls, same breeding, price $200.00. J. O. D. Ranch, Aroyo, Colo., on U. P. R. R.

THRIFTY HOLSTEIN CALVES, EITHER SEX, practically pure-breds from high producing dams and registered bulls, five to seven weeks old, $30; express prepaid to your station. Safe delivery and satisfaction guaranteed. Also 50 registered cows and heifers and 100 high grade young cows and two-year-old heifers. Magee Dairy Farm, Chanute, Kans.

HOGS

BIG TYPE POLAND CHINA PIGS; REGISTERED. Barney Bros., Haswell, Colo.

JACKS

FOR SALE—AN EXTRA GOOD HEAVY BONED registered Jack, seven years old. Price, $600.00. J. O. D. Ranch, Aroya, Colo., on U. P. R. R.

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC JERSEY HOGS—THE BIG BONED, large, prolific type. Young pigs by the Senior Champion boar at the last Denver Show, Orion Cherry King 15th. Did you see our grand champion barrow that sold at 50c per pound? J. O. D. Ranch, Aroya, Colo.

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

640-ACRE HOMESTEADS—BOOKLET. F. Duff, Casper, Wyo.

A-1 320, 8 MILES FROM TOWN. SELL CHEAP. Nestle Evans, Byers, Colo.

WANT TO HEAR FROM OWNER OF FARM OR fruit ranch for sale. O. O. Mattson, St. Paul, Minn.

WANTED—TO HEAR FROM OWNER OF FARM or unimproved land for sale. O. K. Hawley, Baldwin, Wis.

GOVERNMENT LANDS—CALIFORNIA, OREgon. Booklet-stamps. Joseph Clark, Sacramento, California.

I WANT TO HEAR FROM OWNER OF GOOD ranch or unimproved land for sale. Mrs. W. Booth, Pulaski, Ia.

HOMESTEAD LAND RELINQUISHMENTS; good deeded farms; water, timber, good rainfall. Fr. Chancer, Westcliffe, Colo.

WANTED—TO HEAR FROM OWNER OF GOOD ranch for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

DAIRY AND STOCK RANCH, 320 ACRES. Average $300 per month income; good market; $4,000 cash. Jacobs Dairy, Santa Fe, N. M.

144 ACRES OF DEEDED LAND LOCATED 3 miles from town, under old established irrigation ditch, not bonded, all fenced, good house, stable for 15 head of horses, good well and cement stock tank, good cement cellar, lays good and good soil. Price $30 per acre. Also 160-acre school lease adjoining the above land at $200. J. R. Anderson, Ft. Morgan, Colo.

CHOICE SHEEP PROPOSITION—626½ ACRES, solid block; all high, dry, fine-laying cut-over grazing lands; fertile clay loam soil; first-class agricultural land when cleared; well watered; railroad station 1 mile. Market value $20 per acre. Our price for the tract $10.50 per acre.

1,400 acres of very choice land, both for agriculture and grazing; splendid sheep-raising proposition; well watered by several streams. Average distance 2 miles to railroad. Price $12.50 per acre.

We have other tracts in any size desired. Write for further particulars.

The E. L. C. Co., Dept. 49, Merrill, Wisc.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

THREE NEW ½-TON TRUCKS, ELECTRIC starters, lights, etc.; can be bought below cost. See them. 2014 Champa St., Denver.

WANT RANCH IN TRADE FOR HOTEL. COMpletely furnished, good mining town, high school, county seat. Georgetown, Colo., Box 26.

CORN HARVESTER—ONE MAN, ONE HORSE, one row. Self gathering. Equal to a corn binder. Sold direct to farmers for 23 years. Only $25 with fodder binder. Free catalog, showing picture of harvester. Process Corn Harvester Mfg. Co., Salina, Kans.

FORDS CAN BURN HALF COAL OIL OR cheapest gasoline, using our 1918 carburetor; 34 miles per gallon guaranteed; easy starting; great power increase; attach it yourself; big profit selling for us; 30 days trial; money back guarantee; styles to fit any automobile. Air-Friction Carburetor Co., 469 Madison Street, Dayton, Ohio.

No Advantage in Soaking

Ans. to H. W., Washington county:

There is no advantage in soaking grain for poultry. Neither is there any harm in it, but so far as we know it is simply a loss of time to soak or cook grain for poultry. It is a common practice, and one which I follow, to feed a wet mash, usually warm, once a day. This is not only relished by the fowls, but affords an opportunity of using up a lot of the waste material, such as the cull vegetables, by cooking and mixing in the mash.

About Angora Goats

Ans. to C. C. N., Colorado, about Angora goats:

They are bred once a year. The period of gestation lasts 147 to 155 days, or varies according to the breed. Angoras about five months. The lacation period are not a milch goat, but are raised mainly for their fleece. Their lactation period varies from three to five months, while milch goats often have a period of seven months. Angoras usually furnish just enough milk to raise their offspring, but an occasional individual is found that gives a large quantity of milk. Goats are fond of root crops and thrive on carrots, beets, turnips, etc.

Corn Harvest Help

WHEN you are wondering where on earth you will get help to cut or husk your corn this fall, remember this:

An International Harvester corn binder, with one or two men to handle the job, will cut six to eight acres a day, bind the corn into neat, easily handled bundles, and load them on a wagon to be hauled to ensilage cutter or husker and shredder.

Or, if you must leave the stalks in the field, a corn picker will take off all the ears, husk them, and load them direct into a wagon, also at the rate of five to seven acres a day.

If you use a binder, you get all the crop. If you use a picker, you get all the ears. The same help that planted and cultivated your corn can harvest it, at the right time, and at the lowest possible expense.

Deering, McCormick, Milwaukee, or Osborne Corn Binders
Deering or McCormick Corn Pickers

furnish the best kind of corn harvest help. There may be enough of them to go around this fall, but if you want to be sure of having your machine in time, place your order with the local dealer, or write to us for full information, just as soon as you can.

International Harvester Company of America
(Incorporated)

Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont. Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah San Francisco, Cal. Spokane, Wash.

There are now 130 agricultural experiment stations thruout China's provinces. There are also two cotton experiment stations, one stock raising station, and a department of forestry with a forest commissioner in each province.

Conserving the Corn Crop

At least 37 per cent of the digestible material of the corn plant is left in the stover when the ears only are used. When corn is ensiled this 37 per cent goes into the silo with the 63 per cent in the ear. The importance of this saving will be more apparent when give a money value. With a yield of 50 bushels an acre, the value of grain is $65, at $1.50 a bushel. Since the stover contains more than one-third of the food nutrients, it is worth at least one-half as much as the grain, or $32.50. How many farmers will willingly leave in the field $32.50 an acre? Yet this is done in many sections of the country where the corn is husked and the stover left in the field.

But suppose the dry stover is fed as roughage. Even then it is not well saved as completely as in silage. When, under ordinary farm conditions, corn is cured in the shock the loss of dry matter is approximately 25 per cent and may be as high as 45 per cent. These losses are due to the breaking off of leaves by the wind and in handling, and to destructive fermentations. The loss of dry matter in the silo is very slight when the silo is tight and the silage well packed at the time of filling. As silage, the cornstalk is all consumed, but as stover only the leaves are eaten unless it is shredded, and even then a great part of the stalk is discarded. Some feeding experiments show that even in shredded stover the portion discarded is as high as 31 per cent. This is in addition to the loss of dry matter during the curing process.

Too frequently an unfavorable season results in the loss of the whole corn plant, or in immature soft corn that is of little value. By far the best method to utilize corn which is immature at harvesting time is to put it into the silo. Even frosted corn will make satisfactory silage if harvested at once. If it becomes dry, it may be saved by adding water during the filling process.

Bucking Bronchos Will Assist Soldiers

It seems a far cry from an outlaw broncho frenziedly bucking on a Wyoming prairie to white-robed nurses tenderly ministering to shell-torn soldiers behind the battle fronts in Europe, it sounds preposterous to assert that a longhorn steer gretesquely somersaulting at the end of a western cowboy's lariat may be associated with the physical and spiritual welfare of American young men who have crossed the sea to crusade in foreign lands that the world may be made safe for democracy, yet these seemingly unrelated events are intimately associated by the action of the citizens' committee which is arranging for Cheyenne's Twenty-Second Annual Frontier Days celebration, July 24, 25, 26 and 27. The committee has ruled that every cent of the proceeds from the celebration above actual expenses shall be made a free-will offering to the American Red Cross, the Y. M. C. A., the Knights of Columbus, the Salvation Army and the Red Star, for use in the war work of these organizations. The Frontier Days Fund for American soldiers abroad will amount, it is anticipated, to several thousand dollars.

War Work and Homestead

Is a person employed by a railroad considered working for the government; if so, would he have to live his allotted time on his homestead?—A Reader.

There are no regulations on the subject of giving credit for any other kind of labor than farm labor under the Act of Dec. 20, 1917. However, the department has taken the position that a person employed in work necessary to the counduct of the war would have a leave upon the filing of an affidavit corroborated by two witnesses as to the nature of his employment and a certificate from his employer that such labor was necessay. If the commissioner decides that the entryman should have this leave, the effect on his entry is to suspend the same for a period of not to exceed one year at a time, but the entryman does not receive any credit for constructive residence.—Mary Wolfe Dargin, Register U. S. Land Office, Denver.

The U-boats are wasting some of our food; don't be a U-boat.

Fight to conserve; conserve to fight.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

For novices in poultry keeping, and with small flocks generally, it is advisable to make sure that the flock is free from lice by giving the birds individual treatment, which will secure that result. The most universally procurable article for this purpose is powdered sulphur. The method of applying this is to hold the bird by the feet, head down, and dust the sulphur freely into the feathers, using either a small insect-powdered gun, or a can with a perforated cover. Pyrethrum may be used in the same way. Neither of these remedies will thoroughly and permanently rid poultry of lice. When they are used treatment must be repeated at more or less frequent intervals, as may appear necessary.

By using commercial sodium fluorid in the form of powder, or as a dip, all species of poultry lice may be destroyed at one application. As the high efficiency of sodium fluorid in destroying the lice on poultry is of recent discovery the material is not ordinaridly found in all drug stores. With a demand for it, however, local druggists will secure supplies. Poultry keepers who desire to thoroughly eradicate lice from their flocks should write the United States Department of Agriculture, Washington, D. C., for Farmers' Bulletin 801, which gives, with full details of the use of sodium fluorid, complete information on the control of mites and lice.

Egg Storage Benefits

A clear understanding of cold storage as a factor in enabling American people to have eggs at all times of the year, at prices justified by original cost plus any necessary handling expenses, is shown in figures announced by the U. S. Food Administration. In April, 478 cold storage houses were reported as used for storage of eggs. These warehouses are distributed thruout the United States.

According to the U. S. Department of Agriculture, the smallest number of cold storage warehouses in any of the eight geographical groups of states is 37 and the largest number is 97. The average is about 60. Thus the distribution is fairly uniform geographically. More than 400 of the storage houses are owned and controlled independently of the large packing interests.

Public storage houses frequently have as many as 500 accounts and each person or company storing eggs ordinarily disposes of them to several hundred customers. As eggs are generally sold on contracts specifying future delivery during the season of little or no production, the number of persons now owning the eggs stored reaches into tens of thousands; no owner has sufficient holdings to dominate the market. Furthermore, the trade which distributes these eggs is now under the general supervision of the U. S. Food administration. New regulations prohibit all unnecessary trading and are expected to stop the wasteful practice of re-sales within the trade.

Chicks Have Foot Disease

Am writing you in regard to my little chicks. First their eyes close and legs and feet turn dark red or purplish color and are badly swollen and seem very sore and tender. Most of them linger along and finally die. A few have gotten over it but are crippled. Am confident it is not the feed but is a disease, or is it poison? It is my opinion that it is poison from a kind of cactus or thistle that is around the yard, and if desired will mail a leaf of it to you. Would be very grateful if you could find out the trouble. A few of the neighbors have the same trouble.—Mrs. V. L. Aubert, Hugo, Colo.

The above is another experience with what has been termed the "prairie sod disease," for lack of a better name or definite knowledge of its cause. The Veterinary department of the Agricultural college at Fort Collins is hard on the trail of the offending plant (probably a cactus). We are hoping to be able to give our readers definite advice in the near future.

Caponize the Roosters

Take the crow out of some of those early hatched chicks and feed them more than scraps that are left from the table, and you will have a fowl fit to set before any guest. They will develop about twice the weight and a very superior flavor on about the same feed that it takes to mature a hen, especially the beefy kind that celebrates the holiday before she takes courage to lay her quota of 12. At the present prices of feed, believe it is the cheapest meat to eat, and it is not on the conserving list. —Arthur Marsh, Sedalia, Colo.

Grain Mixture for Poultry

Please tell me what proportions of the following grains to feed growing chickens and hens: Kafir corn, oats, corn chop, bran and tankage. I also feed a littleskim milk.—Mrs. W. I. S.

We would recommend that you use one-half kafir corn, one-half good heavy oats as a grain feed for your hens and 45% fine corn shop, 40% bran and 15% tankage as a mash feed. This can be fed either wet or dry, as you choose. If fed dry it should be placed in hoppers where the chicks can have access to it at any time. The more skim milk or sour milk you have the better. If you feed the coarse corn chop as a grain feed, we would make the mixture 40% oats, 30% kafir corn and 30% cracked corn. In case you do not have the fine corn chop for your mash, would feed 80% bran and 20% tankage.

How the Lord Helps Those Who Help Themselves

Continued From Page 3

lands as taxes and collected by the county.

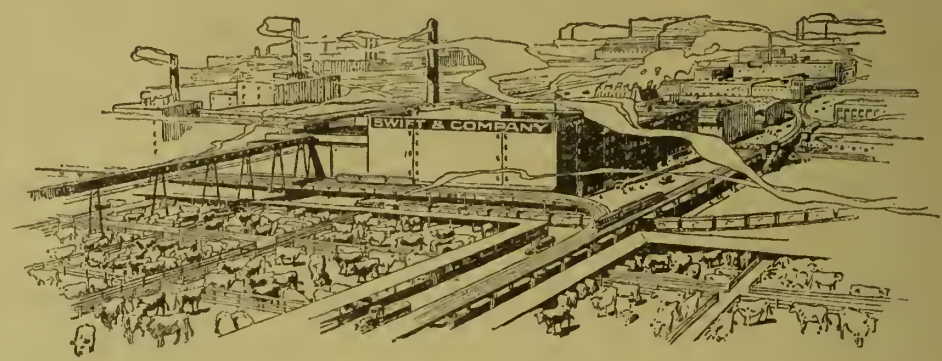
Two or three big cattle companies own large areas of grazing land along the nortnern border of Larimer county (which is also the state line), and these compaies have agreed to do the poisoning in their pastures. An effort is also being made to get voluntary co-operation from the farmers over the line in Wyoming, the matter having been taken up by County Agent Bascom with County Agent Earle G. Reed at Cheyenne.

Strychnine is the material used. Quantities of the formula are mixed by the pest department at the State Experiment Station, Fort Collins, and sold to farmers at cost. By purchasing in large quantities, the state is able to get strychnine at a reasonable price, in spite of war-time shortage.

Mr. Bascom, who was the pioneer county agent in Colorado, having been appointed for Logan county about six years ago, recently re-entered the work, after being employed for several years as field agriculturist for the Great Western Sugar company in the Sterling district. He is a graduate of Kansas State Agricultural college and was raised on a farm in that state.

Prairie dog poisoning campaigns are being undertaken in a number of counties and already thousands of the little animals have been destroyed. According to a report received by C. E. Lovett, state leader of county agents, from W. L. Burnett, deputy pest inspector, orders received from Jan. 1 to May 1 of the present year amounted to 9,944 pounds of poison. This is sufficient to distribute in 994,400 prairie dog holes. As the mortality from the first distribution usually runs about 75 per cent, it will be seen that the prairie dog exterminators of Colorado are doing their share in forwarding production of crops. It usually takes from two to three applications of the poison to get all of the dogs and where farmers perform their work faithfully the reward is complete rirddance.

When once organized, a pest district is in operation three years and land owners, during that period, are obliged to comply with the law.



A business that is as big as its job

KEEPING a nation of over 100 million people regularly supplied with meat and meat products is a big and complex job.

And a still bigger job when to it is added the needs of the American soldier here and in Europe and of the Allies as well.

It is a job of converting the live stock of the West into meat and meat products and distributing them in perfect condition over long distances to the consuming centers —the North, South, East, West and abroad.

A job of supplying with *unfailing regularity* products that in the main are perishable, in the exact qualities and quantities needed, to the smallest out-of-the-way village as well as to complex and congested metropolitan centers.

Only organizations like that of Swift & Company, with its highly-specialized methods of meat-dressing, its hundreds of branch-distributing houses, and its thousands of refrigerator cars, could have handled such a job efficiently and at a minimum of expense in the present war emergency.

Today American meat and meat products are the recognized standard of the world.

And the economy with which these products are produced is indicated by the fact that today the meat of a steer, dressed, is sold for less than the cost of the steer on the hoof! The proceeds of by-products, made out of what once was waste, have made this possible.

The size of the job has dictated the size of America's packing industry. And America's packing industry has proved itself to be equal to its job.

Swift & Company, U. S. A.

A nation-wide organization with more than 20,000 stockholders

The Grange

Offices 415 Charles Block, Denver
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C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 415 Charles Block, Denver, Business Agent and Secretary.

There was a good attendance at Burington Pomona held May 29th and a ry interesting program was given. ie State Lecturer was present, ac- mpanied by State Purchasing Agent ruggs, both of whom spoke regard- g their respective lines of work. The range Stores Company sent a man t from Denver with sample trunks, take orders for supplies and he did successful day's business.

Colorado Grangers will be interested the following resolutions relative to gslation, adopted at the recent meet- g of the Oregon State Grange, as the atters touched upon are, for the most rt, also of vital concern to this ate:

The grange legislative committee was structed to seek the enactment of a w which would provide for the elec- n of officials by first, second and third oice preferential vote, irrespective of rty. The idea is that candidates re- iving a majority of votes would be de- ared elected in the primary election, hile only in instances where no candi- te received a majority would the two eiving the highest vote become can- dates subject to the choice of the vot- s at the fall election.

Another resolution adopted favors the actment of a law which will require bills relating to taxation to be in- oduced during the first ten days of a gislative session.

A resolution introduced favoring pro- rtional representation with legislature nsisting of a single house with 36 embers was reported on adversely by e committee on legislation and the port was adopted.

Opponents of the resolution took the sition that with war on was no time start something which would stir up e controversy that would be created such action. However, the matter as referred to the legislative com- ttee, which will confer with the next gislature about a measure of this na- re.

The legislative committee was in- ucted to seek the enactment of a v which would give counties authority initiate laws for their local benefit.

This committee was also instructed to ge the legislature to pass a law re- iring creameries, cheese factories and ndensaries to file a bond giving pro- tion to producers.

Indorsement was given to the pro- sed constitutional amendment provid- g for the election of a president of senate and a speaker of the house the people of the state. Such elec- e officers would have no vote in legis- ive proceedings. This was referred the local granges for confirmation fore such an amendment is initiated put up to the legislature to be re- red to the people.

The legislative committee was in- ucted to seek the passage of a law ndardizing the weight of sacked mill d.

The grange went on record in favor making seed companies and growers sponsible for seeds, bulbs and nursery cks being true to name. This was erred to the national grange for con- eration and enactment of a law on suhjest by congress.

Another resolution adopted urges the actment of a law fixing penalties for sons selling goods not true to adver- tements, and requiring clothing manu- turers to tag garments to show the ount of wool and the amount of ddy in them. It also urges a law ng penalties for persons selling, as hard lands, lands which are not suit- e for that purpose.

Comanche Grange No. 207 held one eting in June. Our attendance at monthly meetings averages from 49 56. Thirty-two candidates were initi- d into the first and second, and the e number into the third and fourth rees. We are getting ready now for entertainment about the last of June, en "The Village Postoffice" is to be en. This is a musical play in two s, requiring thirty characters. The nge is making good progress, and I eve it is now the best in the country. have nearly 200 members and ever many new ones, with ten more to e in at the next session.—Lecturer.

Colbrook Grange No 355 was organ- in August, 1917, with 89 charter nbers and has steadily grown until present there are 176 members. Re- tly we had a contest. The Grange divided under the leadership of two tains; fifty-four new memhers were d thru this contest. On May 16th Grange gave a puhlic program and cream social. We cleared $34 which given to the local chapter of the Cross. We meet the first and third rsdays of every month; the attend- is good and the meetings are in- sting. We are planning a big Fourth uly celebration.—Mrs. D. W. Rich, urer

Comment by Farmer Putnam

Continued From Page 9

in' been raised at 7,000 feet and know- in' the climate, he knowed that what was good fur man was good fur beast, and he ain't makin' no mistake. His Jerseys is slick and fine and it ain't no wonder, when you see the grass that they lives on. It gives the butter a color that is more golden then colored store butter. I know because I been eatin' some of the butter. (See adv. above. Other subscribers please take notice.)

I could-a got a job at Bishopps, if it warn't fur my sore hand, which makes me lame after I milk a cow or two. The soreness comes from writer's cramp, because of my literary labors, and it has ruint me fur dairy work, exceptin' perhaps supervisin' a big dairy farm. Bish. sez if I kin furnish him a man and wife, the man bein' a good milker and the woman a cook, he'd pay 'em $80 a month (fur the pair,) give 'em a house to live in, all the milk and cream they want, a nice garden, free fuel, just fur splittin' the logs; all them privileges if they'll only stay on the job. Now if any of you people that's been lookin' fur a good place with plenty of work, but plenty of grub and good pay, wants a steady job write to B. G. D. Bishopp, Virginia Dale, Colo., statin' that you seen this here ad in Farmer Putnam's part of Western Farm Life.

Of course you don't need to think you kin git off to go to the movies, because they ain't no movies nearer then forty miles and it's about the same distance to the railroad, but jitneys goes right by the ranch in dozens every day, because they is a great deal of travel from Colorado acrost to Wyoming, and vicey versey, because of the prohibition law, which is very strict in Colorado and which they hain't got none of in Wyoming—I mean the law. A feller ain't safe in bringin' it acrost the border, because them there state constabluaries is on guard, with guns as big as young cannon, and believe me they mean business. Some feller that they met comin' from Wyoming forgot to stop when ordered. Well I don't need to finish the story. I kin tell another one that illustrates the point. It was told us by Mr. Rodgers about a feller that got a job in one of them factories in the Kansas natural gas district. He smelled a gas leak in the cellar and he went down to look fur it with a lighted torch in his hand. He lost his job right away.

Well I was a-goin' to write somethin' about that camp supper in Poudre canon, where I went with the Vaplons, the Barnses, the Crossmanses and the Frenches—she's the lady on page 12—but I promised to give no details. Everything went fine, but two of the gents in the party had a little rasslin' match and one got a swelled wrist and the other a lame back and both of 'em bein' professors, or at least in that line of business, they ast me fur heaven's sake to leave their names outen the writeup, because it is so undignified fur two old owls to git in a friendly mix up and git hurt. I reckon that warn't the hull reason and as I hain't a-goin' to mention no names it might not hurt to give the reason. Both of 'em draws pay from Uncle Sam, so I reckon they don't want Uncle to find out that they're physically fit, even if they is over age. Alright boys, I hain't a-goin' to say nuthin'.

THOMAS JEFFERSON PUTNAM.

Holstein Sells for $106,000

The greatest sale of dairy cattle ever held, and the highest price ever paid for a bovine are outstanding facts regarding the recent National Holstein sale, held in connection with the annual meeting of the Holstein-Friesian Association at Milwaukee. A total of 175 individuals were sold, for $425,810, an average of $2,433. The top price was the sensational figure of $106,000 paid for Champion Sylvia Johanna, a six months' old bull calf, son of the world's greatest milk producer, May Echo Sylvia, who produced 1,000 pounds of milk in seven days.

Carnation Farms, owned by the concern that puts up condensed milk of that brand, paid the high figure, in competitive bidding against Lisle Farm, the latter quitting at an even $100,000.

No animal in the sale went for less than $300; the bulk of sales was around $1,000 and there were scattering sales at from $5,000 to $13,000, besides the one sensational jump that broke every known record

ACCLIMATED POLAND CHINAS

Poland China hogs have always been and always will be a breed that can not be out-classed for certain conditions and where a good big weighty animal is desired. While they are not as popular here in Colorado and the west as in some of the eastern sections, this lack of popularity is not due to a fault of the type but to other reasons that should have but little weight with the farmer who is looking for an opportunity to improve his herd. To those who are in the market and wish to purchase one or more good large type Poland China gilts, it would be well to write C. W. McLaughlin, Olathe, Colo. He has some gilts for sale that come from excellent breeding. See his card on page 15.

Preparing Sagebrush Land

Ans. to F. D., Moffat county:

Answering your letter regarding the preparation of sage brush land: There is a great difference in sage brush land. Sometimes the plants are small and the stand so light that the roots can be plowed under, leaving the field comparatively clean, but usually a heavy team is required to plow up the roots, which have to be raked up with the harrow or rake and burned to get them out of the way. Sage brush which is too heavy to plow is often grubbed out by hand. After the land is plowed and clean, it should be disked and cross-disked without lapping. It will then hold and absorb any rain that comes. When weeds come up, repeat the disking. In August the whole field should be smoothed over and the wheat planted between the 15th of August and the 1st of September.—E. R. Parsons.

Kansas Germ-Free Fluid Vaccine for **Blackleg**

A Carefully Made and Proven Preventive

Originated at Kansas Agricultural College by members of this company and made under Government license. Every dose guaranteed up to standard. Over a quarter of a million cattle immunized with one treatment, with the record to date standing 100 per cent. Read what the following well-known stockmen have to say about the KANSAS GERM FREE FLUID VACCINE:

This spring I was losing a yearling every few days out of a bunch of about 400 that had been twice vaccinated with the Government; and then I used your vaccine and have not lost a single yearling since, altho they continued to run in the same pastures where the others had died—FIELD BOHART, Colorado Springs, Colo.

We used your vaccine on about 2,000 of our calves last December with the most satisfactory results. So far as we know, we have not lost a calf from blackleg since they were vaccinated for the first time in the history of our company.—H. H. TOMPKINS, JR., Pres. The Tompkins Cattle Co., Denver, Colo.

This is only two of hundreds of letters we have from stockmen and farmers who have used KANSAS GERM FREE FLUID VACCINE.

We tell you all about this vaccine and how to get it in our booklet, "No More Blackleg." Write and ask for one of these booklets. They are free.

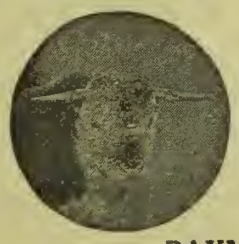
The Kansas Blackleg Serum Co.

LIVESTOCK EXCHANGE BLDG., ROOM 407, DENVER, COLO.

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred



We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Write us for prices and detailed information.

OFFICES

First National Bank Building, Cheyenne, Wyoming
406 New Live Stock Exchange Building, Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager

WM. J. ROSSMAN, Ranch Superintendent **JAMES C. ADAMS, Salesman**

High Class Jerseys and Durocs

"THE WESTERN HOME OF THE MAJESTY'S"

Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the otber day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, better get a Majesty bull calf while the getting is good. I have them. Also a few fall boars, splendid good ones, at right prices. I will have sometbing still more interesting to tell you very soon about Majesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

$25 HOLSTEINS $25

Five weeks old 15-16 pure, mostly white, $25 crated.
Two months old, $40.
Registered Bulls, two months old, best quality, $70.
Two-year-old springers, $125.
Cows crated, $150. Car lots write us.
Buy tbe best, it pays in tbe end.

Dr. J. A. Roberts Stock Farms
Oconomowoc, Wis.

FOR SALE
LARGE TYPE POLAND CHINA GILTS

These gilts are sired by or bred to SMOOTH GIANT by SMOOTH BIG BONE.

COLUMBUS BIG GUN, by COLUMBUS DEFENDER and McLaugblin's BIG CHIEF, by MOUWS BIG CHIEF.

C. W. McLaughlin

DRAFT HORSES AND BEEF CATTLE

I can show the buyer 288 imported and American Bred Percberon and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices, $450.00 and up. Also 396 young beef cattle consisting of Durbam, Polled-Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

Goodwin Jersey Farm

Offers for sale the Jersey bull Prince Eminent Lad No. 162397; fine individual; well grown; well bred. Price $100.00. Write for pboto and breeding.

W. W. GOODWIN
R. F. D. No. 2 Canon City, Colo.

HOLSTEIN CALVES

Choice, high-grade, beautifully marked heifers or bulls, 5 weeks old, $20.00 crated f. o. b. cars. Write
W. C. KENYON & SONS, Box 39, Elgin, Ill.

The Answer to the Farm Labor Shortage

THE farm labor situation is serious. And little relief is in sight. The new draft will take more men. More horses and mules must go. But, in the face of these handicaps *production must be increased*—and it can be if you adopt the right means.

The Cleveland Tractor has shown the way on thousands of farms. It has successfully replaced muscle with machinery. It has proved itself the modern "Man-of-all-Work."

The Cleveland Tractor plows as much ground as *three* good 3-horse teams and three men—eight to ten acres a day.

It actually does the work *better.* And it harrows. It plants. It reaps. It cuts ensilage, fills silos, turns saws, hauls manure spreaders and road machinery, drags logs, and does the hundred and one chores that mechanical power can do about the farm. It delivers 12 horsepower at the drawbar and 20 horsepower at the pulley. But it weighs less than 3200 pounds. The

Cleveland Tractor

travels on its own tracks, like the giant "tanks" on the battlefields of Europe, and will go practically anywhere. With 600 square inches of traction surface constantly on the ground, it goes through mud, sand, clay and gumbo without miring, floundering or packing the soil.

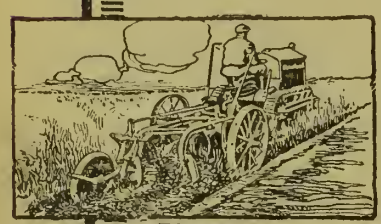
It steers easily—by the power of its own engine,—and will turn in a twelve-foot circle. It is so small that it can readily be operated under and among small fruit trees. It requires less housing space than a horse.

Rollin H. White, the well-known engineer, designed the Cleveland Tractor. It is built under his supervision—from the best materials. Gears and tracks are protected from dirt and mud, and are specially built for long service.

Let this modern "Man-of-all-Work" fill the gaps on *your* farm. Let it help you produce larger crops, with less help—and incidentally make greater profits for you. Write us now for detailed information and the name of the nearest Cleveland dealer.

THE CLEVELAND TRACTOR COMPANY
19073 Euclid Ave., Cleveland, O., U. S. A.

The largest producer of crawler type tractors in the world.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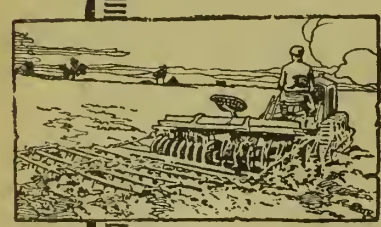
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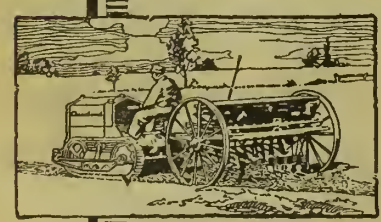
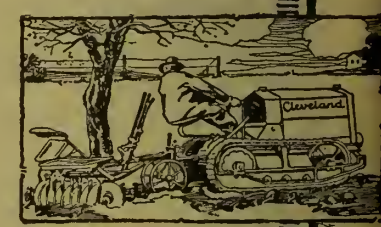
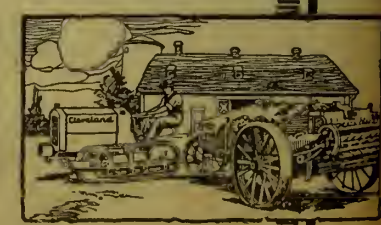

Planting

Reaping

Sawing

Grading


Orchard Work


Hauling

WESTERN Farm Life

Vol. XX Denver, Colorado, July 15, 1918 Semi-Monthly

Sheep and Cattle on the Farm of George Myers, in the Sunflower Valley, Las Animas County, Colorado, Are Wintered on Pinto Bean Straw. See Article, Page 7

Stack Your Hay The Easiest Way The Jayhawk

Stackers and Sweep Rakes

Harvesting hay the Jayhawk way means time, men and money saved. Jayhawk Stackers and Sweep Rakes make it easy to harvest and save every hay crop. Pays for itself the first year. Fully guaranteed. Sold direct at manufacturers price. Write today for free catalog and price list.

F. WYATT MFG. CO., 934 N. 5th ST., SALINA, KANS

Big Money in Running Water

Let us start you in business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an

Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

There is a big demand for wells to water stock and for irrigation.

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co. Box 943 Clarinda, Iowa

Bean Growers and Thresher Men

THE

Bidwell Beaner

is what you are looking for
It does the work

Write at once for catalog and prices on this and other

BEAN HARVESTING MACHINERY

E. E. SCOTT

1817 15th St. Denver, Colo.

Distributor of Hart-Parr Tractors

THE SELF-OILING WINDMILL

has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load

We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.

Write AERMOTOR CO., 2500 Twelfth St., Chicago

Hand Pull Lateral Gates

These gates prevent cutting the ditch banks in order to divert the water and put the water under complete control of the irrigator. They are durable, low initial cost, preserve ditches. May be attached to "Armco" iron pipe outlet conduit any desired length. No cement work required.

Write for our free 125 page catalog, which illustrates and prices these gates, as well as more than 65 other articles for the irrigator including the "Armco" flumes, ditch lining, pipes, culverts, tanks, troughs and grain bins.

THE R. HARDESTY MFG. CO.
1837 Market Street DENVER, COLO.

$20.00 Sweep Feed Grinder. | $26.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
610 E. Seventh St., Topeka, Kansas

CORN HARVESTER Self Gathering for cutting Corn, Cane and Kafir Corn. Cuts and throws in piles on harvester. Man and horse cuts and shocks equal to a Corn Binder. Sold in every state. Price only $25 with fodder binder. The only self gathering corn harvester on the market that is giving universal satisfaction.—Dexter L. Woodward, Sandy Creek, N. Y., writes: "3 years ago I purchased your Corn Harvester. Would not take 4 times the price of the machine if I could not get another one." Clarence F. Huggins, Speermore, Okla.: "Works 5 times better than I expected. Saved $40 in labor this fall." Roy Apple, Farmersville, Ohio: "I have used a corn shocker, corn binder and 2 rowed machines, but your machine beats them all and takes less twine of any machine I have ever used." John F. Haag, Mayfield, Okla.: "Your harvester gave good satisfaction while using filling our Silo." K. F. Ruegnitz, Otis, Colo.: "Just received a letter from my father saying he received the corn binder and he is cutting corn and cane now. Says it works fine and that I can sell lots of them next year." Write for free catalog showing picture of harvester at work and testimonials.

PROCESS MFG. CO. Salina, Kansas

Farm Labor Supply

All available information points to the fact that the farm labor situation in Colorado is, at the present time, growing a little more acute, tho in no section is it critical. Farm help is scarce; there is do denying the fact, but the scarcity is no greater than in some other lines of industry, and it is being met in much the same way—by a cheerful acceptance of the conditions and a readjustment to more efficient management.

The entire question goes deeply into social economics. It is not a condition confronting us for this year alone, but the years of the future, and it is being attacked upon that basis. Emergency measures are necessary now, but we have got to face the matter in its broad light. It is not possible for us to wage a war of such proportions as that in which we are now engaged and at the same time maintain peace practices and indulgencies.

Organization is the keynote of any emergency measures. Thru organizations some 150 free labor exchanges or offices are now in operation in the agricultural sections of Colorado. These exchanges serve to put the farmer and the help he needs in touch with each other, and do so with a minimum of time lost and without cost to either party. These exchanges are operated in the towns by county agricultural agents and labor chairmen of the county councils of defense. If the farmers do not use them they have no legitimate complaint when they cannot obtain help, and in using them they should bear in mind the enormity of the task at hand and not be too critical.

As now operated, the military draft will make the least possible drain upon farm labor. District boards are encouraged to a full appreciation of the needs of the farmer and a careful consideration of skilled farm labor. Furlough rules give relief by permitting men to return to farms for emergency work and provide that groups of soldiers who can be spared from military camps may go into farming regions to perform farm labor for a short period.

Before applying for soldier help, however, it is well to bear in mind that these boys are to fight our battles; they are to suffer hardships and are to risk pain and death. Our plain duty is to support them absolutely without reserve. Is it fair to ask them to help raise and harvest the food to feed themselves, while they are preparing themselves to fight for the rest of us? They are in training to fight a desperate foe; every day taken from that training lowers their efficiency just so much. Ponder these things before applying for soldier help and hesitate to call except in extreme emergency.

Even with the reduction of farm labor the farmers of the nation increased the production of cereal foods by many million bushels. Responding to the needs for increased production, the planting this year is greater than last year, but as we found the necessary labor last year, so we will find it this year, if we look in the right place, and if we insist that every able-bodied man do his full duty.—D. W. Thomas, Farm Help Specialist, U. S. Department of Agriculture.

Machines Save Beet Labor

Labor is one of the principal factors influencing beet acreage, as more labor is required in the growing of sugar beets- than most other farm crops. From all reports, labor conditions are more favorable for sugar beets than they were a year ago. The Department of Agriculture is endeavoring to meet the labor situation not only by encouraging the shifting of labor to the centers where needed, but also by encouraging the development and production of labor-saving machinery.

This year there will be several beet-harvesting machines on the market, some of which have been thoroly tried out and are capable of doing satisfactory work. These implements, which likely will be in general use in the near future, will do much to relieve the labor situation and thereby lend encouragement to the beet-sugar industry.

When the war is over there will be only two kinds of men left—the men who did and the men who didn't.

MARTIN!

KING OF DITCHERDOM

Built for farm use. Equally successful for drainage or irrigation ditches. Fine for terracing and levee work. Cuts the toughest alfalfa or sweet clover roots without plowing. Leaves the ditch with smooth, hard banks. Works in any soil.

IT DOES THE BUSINESS

10 DAYS TRIAL

The name Martin on a ditcher is an assurance of satisfactory field work. It is significant that most Martins now go where others Martins blazed the trail. Each machine sells another—and the reason is

All Steel Reversible-Adjustable

No wheels, cogs or levers. Made in 2, 4 and 6 horse sizes. Large size fine for tractor use.

Model 20

Popularity and True Merit

The Martin always has been and always will be sold **on its merits** and under a guarantee of satisfaction. More **Martins** are now in use than all other farm ditchers combined, and the facts stated in this advertisement tell why.

A Three-Cent Stamp Finds Out

Just say "send catalog" and we will mail a list of users near you, together with full particulars and many photographic reproductions.

Get This Free Book

OWENSBORO DITCHER & GRADER CO., Inc.
1572 Wazee St., Denver, Colo.

Easy to figure the Profits

Where in **Western Canada** you can buy at from **$15. to $30. per acre good farm land** that will raise **20 to 45 bushels to the acre of $2. wheat**—it's easy to figure the profits. Many Western Canadian farmers (scores of them from the U. S.) have paid for their land from a single crop. Such an opportunity for **100% profit** on labor and investment is worth investigation.

Canada extends to you a hearty invitation to settle on her

FREE Homestead Lands of 160 Acres Each

or secure some of the low priced lands in **Manitoba, Saskatchewan or Alberta.** Think **what you can make** with wheat at **$2. a bushel** and land so easy to get. Wonderful yields also of **Oats, Barley and Flax. Mixed Farming** and cattle raising.

The climate is healthful and agreeable, railway facilities excellent, good schools and churches convenient. Write for literature and particulars as to reduced railway rates to Supt. Immigration, Ottawa, Canada, or to

J. L. PORTE
Dunn Block Great Falls, Mont.
Canadian Government Agent.

160 ACRE FARMS IN WESTERN CANADA FREE

Thirsty Cattle

should have plenty of fresh, cool water these hot days. Let

The Fuller & Johnson Farm Pump Engine

supply it for you. The hotter the day the thirstier the cattle get, and pumping by hand in a sweltering sun is not to be thought of. The Fuller & Johnson Farm Pump Engine, no matter what the weather, is always ready to supply a- once.

Fits Any Pump and Makes It Hump

270 to 2,450 Gallons of Water Per Hour!

This remarkable engine is safe—easy to operate—economical—durable—absolutely weather-proof—no belts, braces, or special platforms needed. Comes ready to run. Will also operate grindstone, washing machine, separator, etc.

Used Daily All Over the World

We want to tell you all about this remarkable engine—how it is made—what it will do for you—and the extremely low cost at which you can buy it, so

Write Today for Catalog No. 17A

FULLER & JOHNSON MFG. CO.
72 Wool Street Madison, Wisconsin

(3329)

Original MILLER Bean Harvester

Beware of imitations,
Buy the genuine.

LE ROY PLOW CO.
Le Roy, N. Y.

Distributors, CARR MANUFACTURING CO., Kansas City, Mo.

Published Semi-Monthly by The Farm Life Publishing Co., Denver, Colo. 14th and Arapahoe Sts.

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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, JULY 15, 1918 | Number 14

The Warnock-Sale Makes Shorthorn History

NEW RECORD ESTABLISHED FOR BREED IN MOUNTAIN STATES

ALVIN T. STEINEL

SHORTHORN history was made on June 26th, when D. Warnock & Sons of Loveland, Colo., held their first sale, establishing a record for the breed in the Rocky Mountain states with an average of $1,281 per head for all stock sold, an average of $1,357 for the 33 cows catalogued and a grand total of $47,400 for a three-hour farm auction. One of the most encouraging features of the sale was the fact that the high figures came from Colorado Shorthorn men, some of the immediate neighbors of the Warnocks outbidding cornbelt farmers who had come hundreds of miles to pick up individuals of outstanding merit, bred and reared under the ideal outdoor conditions of the mountain country.

Buyers were present from a number of states and the animals bought will go to farmers in Nebraska, Missouri, Wyoming, as well as the home state. There was life in the auction from start to finish. Right at the outset the offerings were run up to the top figures, the first ten cows selling for an average of $1,767 each. Susan 8th, a four-year-old daughter of Model Type, the famous herd header of the Warnock farm, proved the sensation of the day. Bidding on this exceptional cow started at $1,100 and went by leaps and bounds, reaching the $3,000 mark in a few minutes. She was knocked down to C. A. Petrie of Loveland for $3,200 after the eastern bidders dropped out. Mr. Petrie is a progressive farmer who has recently embarked in the purebred stock business.

Harmon Brothers of Boulder also had some surprises in store for the cornbelt men who came with the intention of taking some our best Shorthorns back east. These progressive farmers did not stop short of $3,000 in bidding for good cows; in fact, they went to $3,025 to get Scottish Lady 3d, a three-year-old with a heifer calf at foot.

The counties "around the Horn," Boulder, Weld and Larimer, all profited by the Warnock sale, as will be noted from the complete list of purchases below.

One of the remarkable features of the sale was the large number of ladies present, indicating that the war is really turning the women toward farming. Col. Nelson G. Kraschel, the auctioneer, mentioned this in his opening remarks, stating that he had never been at any cattle sale where such a large percentage of the audience was composed of women. America is being looked to as the world's chief and almost its only source of supply of beef, he said. This condition made the outlook favorable for breeders and farmers generally. We have been asked, for the next two or three months, to practically abstain from eating beef, he said, and we expect to respond loyally to the government's requested, because the beef is needed to supply our own armies and our allies. This brot on a hearty cheer. The beef men are relying upon the Food Administration to protect them against any unjust fluctuations of the market during the period of beef saving. They expect to keep right on making beef and offering the finished stuff which is being accumulated for future needs. The man who breeds better cattle is dealing in war necessities just as much as the munition maker or the ship builder.

The war spirit was in the air all day, the farmers recognizing that they are doing their part in feeding the armies and the hard-pressed civilians of the war-ridden countries of Europe. A calf offered by the Warnocks as a donation to the Red Cross was quickly bid up to $500 by the citizens of Loveland, as a community effort, and then put back in the ring, where it sold again for $200, making the total contribution to the good cause $700. The citizens of Loveland also offered their assistance in entertaining the stockmen from other states, who were guests of Warnock & Sons, for a trip to Estes Park at the conclusion of the sale. The Loveland people furnished the free use of autos for this and the Warnocks entertained the visitors royally during an overnight stay in the National park, the entrance to which lies ten miles west of their ranch.

These unusual features of the sale all combined to make it an event that will be recorded in the history of the Shorthorn breed and stand to the credit of David Warnock and his sons, who have steadily built up one of the outstanding herds of the breed in America. David Warnock bred Shorthorns in Illinois from 1881 to 1901, when he closed out and came to Colorado. At that time this state was merely a range cattle country, but soon the influence of the National Western Stock Show began to be felt, and here and there a cattle man turned his attention to good sires and purebred cows. Mr. Warnock early rocognized the advantages of the climate and grass of Colorado in putting bone and beef upon an animal of good breeding, and it was not long until he got back into the game. Foundation for the present herd was laid in 1911. Now the Warnocks are known among Shorthorn men everywhere as the owners of Model Type (446848), a white Cumberland bull bred by C. A. Saunders, and Imp. Advocate's Model (647679), bred by George Watson of Aberdeenshire, Scotland. With two such herd headers for sires and a lot of cows in keeping with this good Scotch blood, the prices are not to be wondered at.

From the way the neighbors bought cattle perhaps "Scotty" Milne was right when he said: "These people expect to make Loveland the Aberdeenshire of America." (He said it with a burr that cannot be reproduced in type.)

The sale had been advertised as a cow sale and bull buyers were not there, tho the few offered were snapped up readily.

It was an experiment with the Warnocks, and they put some of their best stuff into the ring in a patriotic effort to stimulate Shorthorn breeding and help the industry. Buyers appreciated this spirit, hence the good figures. It is safe to say that there will be more sales of this kind among the mountain states Shorthorn breeders, who have an exceptional market at home and who, by reason of our climatic advantages which make for constitution and vigor, will always find eastern men looking westward for new blood.

A. C. Cornforth of Elbert, president of the Western Shorthorn Breeders' Association was on hand, and among other notables was Frank D. Tomson, editor of The Shorthorn in America.

Following is a complete list of the catalogue sales:

Lady Cumberland 2nd (153277), four-year-old, with bull calf at foot and bred again to Model Type, to S. A. Nelson of Nebraska for $1,500.

Imp. Butterfly 65th (132757), four-year-old, bred by C. M. Cameron, Balnakyle, Scotland, with twin calves at foot, sold to W. M. Wilson & Son, Lucerne, Colo., for $1,200.

Imp.Broadhooks Victress (132756), six-year-old, bred by A. T. Cordon, Newton, Scotland, sold with heifer at foot to Bellows Bros., Maryville, Mo., for $1,600.

Susan 8th, one of the best of Model Type's daughters, four-year-old with calf at foot and re-bred to Model Type, sold to C. A. Petrie of Loveland for $3,200.

Susan 6th (97122), nine-year-old, to Harmon Bros., Boulder, for $1,025. (Her calf was retained by the Warnocks, who have sold $5,500 worth of calves out of this cow.)

Scottish Lady 3d (481415), three-year-old with heifer at foot, to Harmon Bros. for $3,025.

May Bloom (174367), seven-year-old with Model Type bull calf at foot, to Weaver & Meeker, Denver, for $1,575.

Maid Marian (138615), seven-year-old, with heifer at foot, to Harmon Bros. for $1,550.

Orange Blossom (196773), coming five, with bull calf by Model Type at foot, to S. A. Nelson for $1,700.

Missie 188th (509310), three-year-old with heifer at foot, to C. V. Owen, Lucerne, for $1,325.

Sister Pearl (228715), four-year-old with heifer by Model Type at foot and rebred to Advocate's Model, to C. V. Owen for $1,000.

Royal Queen 16th (532650), coming three-year-old with bull calf at foot, to Harmon Bros. for $1,275.

Golden Hope 20th (126318), with heifer at foot, to B. F. Humphreys, Culbertson, Neb., for $1,275.

Diamond Girl (479074), five-year-old with heifer at foot, to C. V. Owen for $1,100.

Sweet Viola (226570), three-year-old, with heifer at foot, to W. M. Wilson & Son for $1,275.

Parkdale Victoria 5th (167095), aged 5 years, to Harmon Bros. for $1,800.

Imp. Wimple 4th (607464), aged 2 years, to Thomas Andrews, Cambridge, Neb., $1,575.

Imp. Highland Ruth 2nd (131028), yearling bred by MacIntyre of Towie, Auchterless, Aberdeenshire, to Joe Kemp, Maryville, Mo., for $1,450.

Imp. Windsoria Belle (131047), a yearling bred by A. Murray, Boyndie, Bannfshire, to H. W. Irwin of Loveland for $1,500.

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View of the Model Type Shorthorn pasture on the farm of Warnock & Sons, Loveland, Colorado

Summer Cultivation and the Fallow Explained

DEEP GRANULAR MULCH WILL PREVENT EVAPORATION

E. R. PARSONS

WE cultivate on dry farm soils chiefly for moisture conservation purposes, but before moisture is conserved, it must first be caught in the soil or accumulated.

Dry farming is correctly defined as the art of accumulating and conserving such reserves of moisture in the soil as will raise profitable crops in regions of limited precipitation. Therefore all dry farming operations must be conducted with due regard for both of these principles. To determine the best type of cultivation for both accumulation and conservation is somewhat of a problem, for the best mulch to conserve moisture is not the best for causing the soil to absorb it. The dust mulch (and the deeper the more efficient), is good for conserving water, but bad for accumulating it in the soil, for when precipitation comes it is quickly converted into mud, which plugs up the interstitial spaces and blocks absorption. In countries which have a rainy season the dust mulch is invaluable to place on crops as soon as the dry weather commences, and the deeper, the less loss there is by evaporation from the soil below. In the dry farming country where rain may be expected any minute the soil must be prepared to receive it and at the same time be in the best possible condition to conserve what precipitation had previously fallen.

Experience shows that the best mulch to perform both of these functions, accumulation and conservation, is one about three inches deep, as level as possible, slightly furrowed by the cultivator blades, granular, but one which has not been worked enough to reach the rust stage.

A question often asked by farmers is this: "Does it pay to continually cultivate a row crop in dry weather?" It does and it doesn't. If the season remains dry, the farmer who does this will obtain the best results, for he will create a perfect dust mulch, but on the other hand if heavy rains fall the farmer who, having already a good mulch, left it alone will probably raise the best crop. We have repeatedly seen corn which was heavily dust mulched continue to wilt after an inch of rain, while that which was worked according to the absorption plan, had already freshened up for more growth.

One advantage of deep plowing is that the crop will stand a deep mulch, for when the plowing is only five or six inches, if we use up three, there will only be two or three inches of seed bed left for the roots. Shallow plowing systems advocate shallow cultivation—they have to.

There is much nonsense talked about deep cultivation hurting the root system. If it is done properly at the start and kept up there will be no root system to injure, and the root growth will go down where it ought to be. It is often argued that the richest soil is usually on top where the weathering of the granules takes place.

This is true, but it is also true that we plow this under where the roots can get it, and it is also a fact that the rains dissolve any soluble fertility which lies on the surface and takes it down with it to where it will do the most good. It must be allowed, however, that if corn or any other row crop is laid by and allowed to form surface roots, which it does very readily in showery weather, a deep cultivation might injure the crop.

Hilling up of corn or potatoes or any row crop is not recommended in dry farming, for the slant sheds the water away from the stalks where the surface roots start and which a small shower will often reach if the cultivation is level. In hilly country, on slopes, the plowing and cultivating should follow as nearly as possible the contour of the hill in a level grade. More water will soak in, it will be easier work for the horses, and much less danger of wash outs than where the rows run up and down hill. Orchard rows, when planted in this manner, may have the space between them hollowed out somewhat with the disk, and if properly done may catch and hold all the water that falls on a hillside in a heavy storm. By reversing the disk the soil may be easily replaced in its original position. This hollow terrace method is used extensively in other dry countries for reforesting.

Cultivation with the harrow is often used on grain crops in the spring. If this can be done just at the right time when the spring rains have just ceased, it usually proves a great help to carry them thru the dry period which so often precedes the summer storms. Farmers are often timid about harrowing, but they need not be, for young grain crops, before they have jointed, are as tough as grass, and if planted two or three inches deep none of the roots will be dragged out. It has been pointed out by men of the Department of Agriculture that cultivation burns up humus. There is no doubt about this; but we have to cultivate nevertheless, for conserving moisture is of more importance than the saving of a small percentage of humus in the top three inches.

Plowing which turns the stubble and sod under deep, minimizes the loss from this cause; but the field which is plowed only a few inches carries most of its humus on top. The plowing under of green crops or stand of weeds early in June will afford more humus than the cultivator can destroy in a number of years. Altho cultivation may burn up an insignificant amount of humus, it more than compensates for doing so by developing mineral plant food thru the attrition of the soil granules, which contribute their soluble salts to the soil solution, a process which is very much akin to the operation of grinding the berries to make coffee.

The Summer Fallow

We are often asked to explain the difference between summer tilling and summer fallowing. Strictly speaking, the former means any kind of tillage in summer, but the expression has been used by some to denote summer fallowing, for this fallow, besides row crops, also has to be tilled or cultivated in summer. As soon as the spri planting is finished, the dry farm usually turns his attention to plowi the summer fallow for winter wheat rye, to be planted about August early in September. The idea, course, is to catch the summer rai and after the plowing is finished t field must be tilled in such a mann that all the precipitation, heavy light, is impounded in the soil, inste of being allowed to run off.

Some claim that they can do all this harrowing at intervals, and if the s is loose and sandy, besides being lev and deeply plowed, it is possible th they can, but in soil which is heav not very level, and does not take wat quickly, more radical measures are ne essary. These consist in cultivating tilling the field with the disk, by wor ing first one way and then across right angles without lapping, whic leaves checks, ridges and cross ridge which will hold almost any precipit tion however, quickly it comes. Thi can be repeated as often as necessar to keep the weeds out, and the fiel should be leveled with the harrow b fore planting in August. Other thing being equal we have always seen th best results from early plantin There are undoubtedly more farmer who plant in September, October, an even November, but the evidence show that the minority have the best crop and they don't blow out as easily.

Rye in summer fallow will often ou yield wheat and is much hardier, bu when it is run in on stubble it canno be expected to do much more tha make hay, altho under these condition it has been known to make 15 or 2 bushels to the acre in exceptional sea sons. Rye is also a quick fertilizer fo turning under green. It may be plante after the corn is off, or run in betwee the rows with a single horse cultivato in August and plowed under the follow ing May, in time for the next corn crop but this should not be done unless th season is wet, for otherwise the mois ture used by the rye might seriously handicap the corn, and in such a case it should be cut later for hay or turned under the summer fallow.

We Must Give Heed to Grazing Conditions

FEW REALIZE THAT THE GRASS FAMINE IS ALREADY HERE

JOHN E. PAINTER, In The American Hereford Journal

I AM not going to touch in this article on what the Hereford breeders and showmen should do to conserve all the feed possible in fitting and developing their stock, but rather, I shall cover the wider grass situation in the West very briefly. Practically up to almost the present time in the West one considered the feed situation in connection with the breeding and growing herd as relating only to wintering the animal thru from the winter storms until grass should appear in the spring Twenty to thirty years ago even this was not considered necessary, a 2 to 10 per cent loss being the cost of wintering a bunch of cattle. While the free open ranges lasted, this method turned cattle off so plentifully and so cheaply that owners of farm lands in the eastern and central parts of the United States could not compete in the cattle-raising game and so consequently gave up and relied on the West for their feeders. It is quite recent history that when the cattle increase in the United States failed to keep pace with the steadily increasing population, the inevitable happened—a short supply of feeders from the West was the first evidence; the increased price on these did not leave margin enough for the feeder in the Middle West; and, when the price of meat advanced and feeders still kept soaring, many farmers once more returned to the customs of their fathers and commenced to raise their own feeders. High prices in the West for practically everything offered have been a stimulus to raise the last critter possible for the last few years. So far all is well.

What of the future? I have been actively engaged in the cattle business for the last thirty-five years in the West, and during all that time, at the end of no five-year period did the conditions show the same phases as at the beginning of the period. What shall we see at the end of five years from now? I have always considered that to run successfully a bunch of cattle they should be grassed as long as possible; at the present time it should be at least half the year, if not more. Grass, the most plentiful, available yet generally ignored crop in the West, has never received recognition or attention, has not had protection either by legislation (with the exception of the forest reserves) or by custom, but has been the attractive prey of anybody and everybody—with the present results, its almost entire extinction. The ranchman, the farmer, the West in general, is just as unprepared to meet the existing situation today as were France and England to meet Germany on Aug. 1, 1914. The actuality of a grass famine still seems considered as remote as did the present terrible war to the world when it broke loose.

The terrible drouth still existing in the great cattle country of Western Texas and in parts of New Mexico, Arizona and California, as well as some other sections of the West, of course, very greatly aggravates the present conditions. The advance of civilization and the homesteader's plow are yearly reducing our grazing areas by thousands of acres. The remaining range in very many localities has passed into a pasture proposition owned largely by individuals, and expansion has been at work in these pastures, with the result that every succeeding year finds them able to carry less instead of more cattle, the more the pity when one considers the urgent need for further expansion.

Many may not agree with me when I say that the West today is actually overstocked with cows—not that we have more than we ought to have, not that there is not urgent demand for all the beef we can produce, but that there is a lack of grass to feed them. Conditions vary in different localities. If longer time money were available from the banks in many localities. It would afford facilities for obtaining relief. The suspension of the 640-acre homestead act would give temporary relief in some localities. The encouragement to the homesteader and small farmer to run a few cattle where practical would help the situation somewhat. As far as the cattlemen as a whole are concerned, the logical and permanent way as regards numbers is to retrench instead of expand. The expansion must come the other way—give a few (in some cases many) more acres of grazing land to the lands. Instead of having long-headed, long-legged, narrow-gauged, slab-sided scrubs (and I have seen some registered cattle that would have difficulty in keeping out of this class), let us expand every individual we raise in every way possible. Let the heads be wider, instead of longer. Let the bodies be deeper and wider and nearer to the ground—daylight does not weigh on the scales and does not cut up into beefsteaks. There is no room any more in the West for scrubs. We want nothing but the best. In the Hereford ranks in considering expansion, let us remember that number is not the most desirable feature if it is obtained at the cost of quality. Let us not debauch the magnificent type we have developed in the American Hereford. Let us remember that a pedigree does not enhance by one penny intrinsically the value of an inferior animal, while every inferior animal does detract from the breed which it misrepresents.

Mormons Turn Over Wheat

More than a quarter of a million bushels of wheat have been turned over to the Food administration from the Mormon wheat storehouses in Utah, which are now being swept clean for the first time in more than 30 years. This represents the enormous reserve supply built up under the tithing practice to protect the people against any emergency. After each harvest the church members who are farmers contribute one-tenth of their production to provide seed for future crops and as insurance against famine.

On a Jitney Tour of the Famous San Luis Valley

SOME SUGGESTIONS ON THE ALKALI AND OTHER PROBLEMS

ALVIN T. STEINEL

FARMING on the floor of an ancient lake, at a height of over 7,500 feet above the level of the ocean, and surrounded on three sides by mountain ranges reaching an altitude of 12,000 to over 14,000 feet, has its difficulties as well as its compensations. With an annual average rainfall of 8 to 9 inches, agriculture in such a region needs water if crops are to be grown. Water is at hand and it is responsible for the success of farming as well as for its failures. These statements apply to the region known as the San Luis valley of Colorado, one of the most remarkable and interesting agricultural sections in the world.

Approaching the valley from the gap in its eastern front, between the magnificent Sangre de Christo and the formidable heights of the Culebra range, over La Veta pass, the first sight of the vast plain, which measures ninety miles in length and approximately forty-five miles in width, is like the vision of a sea. In the immediate foreground there is an undulating and apparently endless expanse of dark green sage, bordered in the distance by cultivated fields. The traveler who is seeking picturesque spots finds them in plenty, from historic old Fort Garland, the adobe group once used as an army post on the route to Santa Fe, to the ancient and interesting town of San Luis, which looks like a transplanted Mexican village and is just emerging from its Spanish slumber of a century and becoming a modernized American town. But this is not a sightseeing trip. We are here for business—the business of agriculture.

In that respect the San Luis valley is doing more than its share, and doing it in spite of troublesome problems, one of which is transportation. Another is the black alkali, or seepage problem—call it whichever you will, according to your view of the cause of a malady that affects the soil over a large part of the northern section of the valley. One standard-gauge line of railroad passes thru the valley over La Veta pass, ending at Creede. From the north at Salida, over Poncho pass, comes the narrow-gauge. The outlet southward to New Mexico and the San Juan country of southwest Colorado is over a narrow-gauge line. There is also a short line known as the San Luis Southern, that serves the southeastern portion of the valley, tapping the D. & R. G. at Blanca.

Producers complain that service is inadequate, car shortage being a chronic condition and delays being impossible to avoid on account of the changes of equipment from standard to narrow-gauge and vice versa. Studying a map of the valley, one might conclude because of its easy topography and the comparatively low altitudes of the outlet passes, motor truck service would make a fine supplementary transportation system. But the map doesn't tell the story of poor roads. Before the San Luis valley can enjoy the agricultural prosperity that its fertility and its unlimited irrigation water supply warrant there will have to be better highways. The mountain passes are, at this season, the easiest part of the road problem. The level roads in the bottom country are the ones that need attention in a permanent way. During the irrigation season the overflow from ditches and the seepage water make them impracticable as highways for auto truck transportation; at other seasons they are often rutty and rough.

"We can't built permanent roads because of the seepage," said one resident of the valley. Another put it in a better light when he said:

"We will have to build permanent roads because the seepage makes dirt roads difficult all the time."

Not a Booster Article

This is not intended for a "booster" article about the San Luis valley, because the region has had enough of that, but a discussion of ways to solve problems that are hampering development. If this great plain were less fertile and less abundantly blessed with irrigation waters, it might be just as well for its inhabitants to lull themselves into peaceful slumber, satisfied with their agricultural accomplishments of the past and living on the money made from crops of other years. But that would be a crime. We have here a territory capable of producing meat and grain enough to feed armies—producing it now—but seeing a portion of its lands reverting to sagebrush and witnessing no determined effort to solve this or the transportation problem. As to the latter, it is not likely that any steps can be taken until after the war to improve conditions.

Reading from left to right: W. O. Sauder, County Agriculturist, Saguache county; W. G. Jamison, Assistant State Leader County Agents and N. E. Morgan, farmer, examining alfalfa for insect damage.

The other problem, however, is one of vital concern, not only to the people of the valley, but to the state and the nation. It is estimated that nearly one-half million acres of once productive land in the northern portion of the valley, is going back to its original state of unfitness for any form of agriculture. The trouble is the bringing to the surface of a chemical substance known as sodic sulfate, commonly called black alkali, which, when present in sufficient quantities, is destructive to all ordinary farm crops. This substance is brot up from the depths by the practice of sub-irrigation, an easy way of watering crops that raises the water table to bring it within reach of plant roots.

We might say that this condition could be alleviated by drainage, but the section most affected is that from which there is no natural outlet to the Rio Grande. Streams having their source in the Cochetopa hills take a southeasterly course and lose themselves in the porous soils in the center of the valley, or find their way underground to a chain of so-called alkali lakes, or sinks, well toward the eastern border of the valley. Another complication is the existence of hundreds of artesian wells, most of which have been spouting continuously many years, water logging the soil in their vicinity, altho furnishing a supply of fine water for domestic use and appreciated on that account.

It is not the intention to discuss these matters in great detail. This has been done in bulletins issued by the Colorado State Experiment Station, notably the recent contributions of Prof. W. P. Headden, the chemist, whose suggestions that gypsum by applied to the alkalied lands, to convert the pernicious sodic carbonate into harmless white alkali, were outlined some time ago by Western Farm Life. The farmers are not acting on the advice of the experiment station. The practice of sub-irrigation is continuing, more land is suffering from black alkali every year and little progress is being made in combatting the trouble. A few farmers have abandoned "subbing" and gone to flooding. Some are trying sweet clover, some are growing alfalfa with success on lands that seem to have less of the black alkali trouble since the method of irrigation was changed. But as for any general attempt to redeem the lands, it does not exist outside of the efforts made thru costly drainage systems. And we are told that the results from drainage have been disappointingly small.

It is plainly evident that, under present conditions, the bad lands are not going to be redeemed. The responsibility for this may lie, in the first instance, on the owners, but in the larger sense it is a community responsibility that silence will not gloss over or posterity excuse if we stop our efforts when they have hardly begun.

William A. Noffsinger, a San Luis valley hog grower, photographed in front of his farrowing pens. Lower view shows some of Mr. Noffsinger's hogs on alfalfa pasture.

There should be assigned to the valley one or more men from the Colorado State Experiment station, to continue the work so painstakingly carried on thru a series of years under Dr. Headden's direction, and continue it on a larger scale. Apply the recommendations on farms under field conditions, in co-operation with the county agents, as demonstration work.

State Should Take Action

If special appropriations are needed from the state legislature to carry on this work on a scale demanded by the size of the problem and the value of the lands concerned, then let us have the funds. The publication of bulletins will not redeem the lands. It may be the farmer's business to apply the remedy, but if he is discouraged by the loss of crops and the gradual but certain ruin of land once worth $150 an acre, someone else will have to take the initiative, as this is a community and not an individual problem. The people in the upper portion of the valley should not be permitted to remain in their present state of mind, which seems to accept the alkali problem as an inevitable matter of course.

Some of the progressive farmers are not resting on their oars, but are doing what they can to fight the destructive action of the black alkali. William A. Noffsinger, for example, is a strong advocate of flooding—as against the system of sub-irrigating. He says there is much also in changing the physical condition of the soil by adding humus. He has, for some years, consistently spread straw on his fields, with a manure spreader, and plowed it under. This practice has largely prevented the formation of the alkali crust, which is hard as cement.

"This ground is too porus and needs something to give it body," says Mr. Noffsinger. "Instead of burning straw stacks, as many people do, I put mine back into the soil, cutting up the straw with a spreader and then plowing under. A good many years ago I plowed under a thick stand of peas. It was an awful job, because they made a thick, matted growth, but it paid. That ground showed the good effects for seven or eight years. The day has come when we had better let half of our ground lie idle and give the other half better attention. We have been trying to farm too much land and sub-irrigation has done the damage."

Mr. Noffsinger is turning a lot of his crops into pork. He has sevently head of mature Poland Chinas and a big bunch of young pigs—so many that he did not know the exact number. I saw them on alfalfa pasture. He has fed them his surplus potatoes this spring, because lack of transportation facilities prevented the marketing of these potatoes for human food. Thousands of tons had to be given to the hogs—tons of fine table stock. They help make pork, but they would have gone to market if the valley had adequate transportation.

I saw on this farm an example of what many farmers in the mountain states have had to do in helping supply wheat, which heretofore has been used for hog feed. Mr. Noffsinger sold his wheat at $2.98 per cwt. and bought instead a lot of corn which was too poor for milling, paying $3.40 per cwt. for the corn. He was not kicking about the transaction, altho he was out of pocket, but his experience emphasizes the necessity for holding down prices of animal feeds at least to a level with the staff of life. It would be hard to estimate the money loss that has come to farmers in sections that do not grow corn, by reason of having been forced to sell food grains and buy animal feed at higher prices.

More Barley Being Grown

One result in the San Luis valley this season is the substitution of barley for wheat. This is a rational change, because barley can be used to advantage either for stock feed or human food, and for the San Luis valley the production of livestock should have preference over the raising of cash crops.

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The Home Manufacture of Sugar

CHEMIST SAYS IT WILL GIVE YOU COLIC

SOME months ago we published a summary of a bulletin by C. O. Townsend and H. C. Gore of the U. S. Department of Agriculture on the home manufacture of syrup and sugar from sugar beets, the information being intended for use on farms where sugar beets are one of the regular crops. Writers for the city garden press siezed upon the information in that bulletin and urged city folks to produce their own syrup and sugar. Much misapprehension has arisen in regard to the process, which has been described as being so simple that "any housewife, boy or girl" can extract the sugar with little trouble.

It is true, the process is quite simple—but first there must be grown enough sugar beets to provide the raw material, and when this raw material has been worked up into syrup and finally sugar, there is no assurance that the maker will find the product to his taste. In fact, one authority, Mr. H. E. Howe, a Boston chemist, is quoted in the Literary Digest as saying: "Any such home made beet sugar would be a very impure sugar, guaranteed to give any family the colic." * * * "the syrup that is obtained from sugar beets contains all the soluble substances, and the molasses obtained by concentrating this syrup without chemical purification is unfit for human consumption because of its odor, taste and cathartic action."

Controverting this assertion, the bulletin by Townsend and Gore states that constant skimming of the scum that rises in boiling the juice will remove the beetlike flavor and leave a which, however, will be dark in color, wholesome and palatable product,

Because of questions that have come to us as a result of conflicting advice we asked Mr. H. Mendelson, Agriculturist for the Great Western Sugar Company, to give his opinion as to the practicabilty of making syrup and sugar at home. He says it is entirely practical "if you like the taste of the resulting product."

After reading Mr. Mendelson's statement, the backlot gardener will probably conclude to go into syrup and sugar making strictly on an experimental basis and not with any hope of materially cutting tne cost of living. If only four pounds of sugar can be made from 100 pounds of beets by the home process, and the product is such as the Boston chemist asserts would cause digestive disturbances, the result does not seem to be worth the effort. Conservation of that sort does not conserve; it is a positive waste.

Following is Mr. Mendelson's statement:

What Mendelson Says

Making of syrup from sugar beets for home consumption is entirely practical and feasible if you like the taste of the resulting product and care to do such messy work.

The beet syrup obtained by evaporating beet juice on a stove has a taste of its own, somewhat acrid, and entirely different from New Orleans molasses or the refined cane molasses. We made a great deal of it in my childhood days, but we used it to mix with plum butter, which was put up in very large quantities. The copper kettle used for that purpose held about 50 gallons.

Anybody wanting to tackle this job should realize that a large quantity of raw material has to be handled for a comparatively small output. Fifty pounds of beets raised in an ordinary garden hardly contain more than 12 to 13% sugar. Assuming that 10% sugar can be extracted and obtained in the form of syrup, we would obtain from 50 pounds of beets 8 to 9 pounds of molasses. The thin juice obtained from the beets would be at least 60 pounds, or 7.5 gallons. Therefore, about 50 pounds of water have to be evaporated to obtain less than a gallon of molasses.

The job of evaporating has to be done quickly, as the juice spoils very easily.

Sugar can be made out of the resulting evaporated syrup by placing it in shallow vessels and allowing it to evaporate. When the crystallizing sugar is separated from the mother liquor, you have a soft brown molasses sugar with a pronounced flavor of its own. Probably not to exceed 4 pounds can be obtained from 100 pounds of beets by this method.

I personally prefer a syrup made from carrots. The home process must be adapted to the vessels available. The juice must be handled in enameled or copper vessels.

I should give the following directions:

Find out how many pints the enameled dishpan holds you want to use for this purpose. Take half as many pounds cleaned and topped sugar-beets, chop them in pieces small enough to go into the mouth of the meat chopper, and run thru the meat chopper. Place the pulp in a cheesecloth bag. Place the bag in the enameled dishpan and add half as many pints boiling water as you have pounds of beets. Place dishpan on the stove, and heat just to the boiling point, but don't let it boil.

Drain the juice from the bag. You should obtain a little less than a pint of juice from a pound of beets.

Immediately start to evaporate in a shallow pan. Watch closely and skim. If the juice shows any inclination to boil over, put a little grease in the pan. To get the quickest evaporation, it is necessary to keep only one inch of liquid in the pan, and fill up to that depth continuously until about one pint syrup of the required density has accumulated. Then empty the pan, and start with fresh thin juice. The longer the same juice is kept at the boiling point, the darker the resulting product will be.

I should advise anybody to try this first on a small scale, say with 10 to 15 pounds of beets, and find out whether the syrup suits the taste.

As mentioned before, I believe a syrup made of carrots will suit American taste more than that made of sugar beets.

There will be available this year a large quantity of apples. Syrup made of apples has a pleasant taste and can be used with hot cakes.

Barberry Spreads Rust

The cluster cup stage of the stem rust of wheat is just appearing on the barberries in the eastern part of the state. This will be of considerable interest to wheat growers and others who have barberry bushes growing around their homes, as it will mean that the wheat this spring will rust according to the degree of barberry infection and the amount of moisture falling during the spring months.

The writer and County Agent H. H. Simpson of Boulder county recently found several infected barberry bushes at a farm three miles northwest of Longmont. The orange clusters were found just breaking through the lower surface of the leaves, indicating that within ten days or such a matter they will be mature.

Many people do not understand the part played by the barberry in affecting stem rust of wheat. If examined with a hand lens or simple magnifying glass one finds that the orange clusters exhibit numerous circular cups, the so-called "cluster cups." When mature, the tiny rust spores emerge from these cups and are carried by the wind to wheat fields and to certain wild grasses found growing near the field where the well-known red rust pustules soon develop. New crops of spores are then produced on different plants in rapid succession, it requiring about seven days to produce a new crop of spores. In this way the rust rapidly increases and during a wet spring is capable of ruining many acres of wheat, barley, and oats.

Colorado people should be much interested in the rust problem that is being so thoroly studied by all states of the grain belt. Colorado has not required the eradication of the common barberry altho in all probability this will have to be done should the rust infection be found very extensively on this plant. As a patriotic effort on the part of both city and country people, further planting of the common barberry should be discontinued. Neither the purple nor the green-leaved varieties should be planted. Japanese barberry, however, is uninjurious and may be planted abundantly. It is a worthy substitute.—H. E. Vasey, Colorado Agricultural College, Fort Collins,

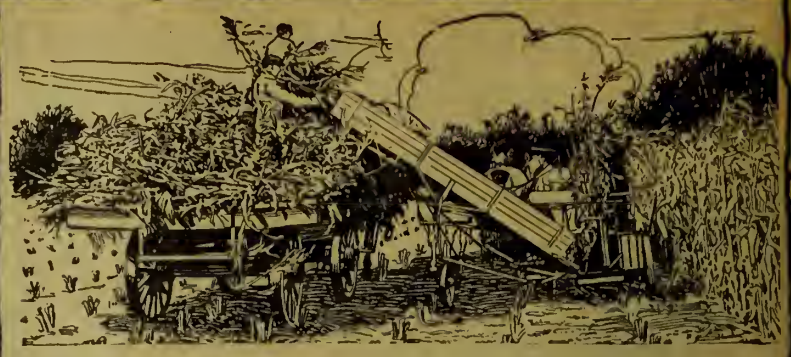
Utah Bulletin on Abortion

Valuable information for livestock men is contained in Utah Agricultural Experiment Station Circular No. 28, "Contagious Abortion in Mares and Cows." Dr. H. J. Frederick, professor of Veterinary Science at the Utah Agricultural College, is the author.

Dr. Frederick has made a very careful study of contagious abortion in Utah as well as a thoro study of all known methods of prevention, control, and treatment. In this little booklet, which is well illustrated, he has presented just the things the practical stockman wants to know about the disease. Contagious abortion, according to the author, has been known in Utah since 1896. Since that thime it has spread very rapidly and is without doubt now prevalent in every locality in the state, constituting one of the greatest losses to the livestock industry in Utah. Great as this loss is, most people take it as a natural condition among animals which cannot be controlled and as a result it has been unresisted in its spread.

Up to the present there has been no specific cure perfected. The circular merely contains methods of prevention, control, and treatment. Many calves and colts are lost every year from this disease. This loss can be greatly reduced and in a few years entirely overcome if all the stockmen would follow the instructions given by Dr. Frederick. It is recommended that if aborting cows are unprofitable they should be sold for beef —never for breeding purposes — but aborting animals that are otherwise profitable should not in most cases be sold. After two or three abortions animals usually overcome the disease and are thereafter immune. By proper care the disease can be eradicated from an infected herd. Owners of herds free from the disease should be sure that any new stock brought into the herd is free from the disease.

All stockmen should be interested in this circular, a free copy of which may be obtained from the Utah Experiment Station, Logan, Utah.



For Use Where Help is Scarce

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Deering, McCormick, Milwaukee or Osborne Corn Binders Deering or McCormick Corn Pickers. ***Order Early!***

This beats hiring men to cut or husk corn, even if plenty of men were to be had. In a season like this, when it is just about impossible to get help, the economy and efficiency of International Harvester corn binders and corn pickers will be welcomed by thousands of farmers.

The output this year is limited. There may be delays in transportation. To be sure of having your machine in time place your order now with the local dealer or write us for full information on any corn harvesting machine you are going to need.

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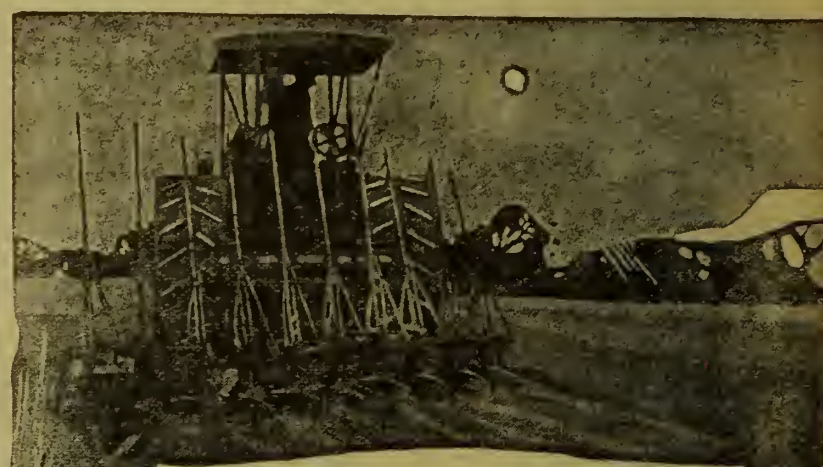

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Bean Straw as a Feed

A good look at the cattle and sheep shown on the cover picture of this issue indicates thrifty stock. The ewes as well as the Herefords went thru last winter on bean straw as their rough feed. The photo shows the feed lots on the farm of George Myers at Hoehne, in the Sunflower Valley east of Trinidad, Colo. Mr. Myers is a pinto bean grower, as well as livestock farmer. In fact, he fits his farming into his livestock program, and he finds beans not only a good cash crop but excellent as feed. After threshing, the hulls and stems are stacked and used for roughage. I went thru the feedlots in May, after the bean straw had been fed out, and found a few little piles of the stems which were good for fertilizer. If Mr. Myers had cut the straw the cattle and sheep would have left no refuse.

I talked with one of his neighbors, Mr. E. G. Duling, president of the Las Animas County Farm Bureau, who is also a big bean grower. He too feeds the straw and finds it valuable for this purpose. For every thousand pounds of beans threshed last fall he got $7 worth of feed in the straw. He sold the hay last winter, but the previous winter he carried thirty head of range cows thru on it, giving them no other feed, and they wintered in fine condition. A dairy farmer who got one load of the bean straw liked it so well for his high class milk stock that he begged for more, but couldn't get it.

Some farmers feed the straw with ensilage, which makes a fine combination. In that way, according to Prof. Kezer, it will equal alfalfa, but if fed with other dry feed it is not so valuable. From one-half to three-quarters of a ton per acre of straw is usual from pinto beans grown under dry land conditions, with a heavier yield on irrigated lands. Every bit of this can be utilized for stock feed. It is worth from $4 to $8 per acre to the grower in this way and adds just so much to the income from the bean crop.—A. T. S.

Heavy Cattle Not Wanted

In view of the unfortunate experience last winter of some feeders of heavy cattle, the continued high price of grain and the uncertainty of a continuation of the good prices well finished heavy carcasses recently command, the United States Department of Agriculture believes that feeders should concentrate their efforts on the production of economically short-fed cattle. Of course, this statement does not refer to baby-beef production which is a specialty within itself.

There is no question that for the last several years cattle feeders have been making beef too fat, that is, they have put more finish upon the animals than economy would justify.

Recent experiments by various State experiment stations and the United States Department of Agriculture have borne out the fact that good beef can be produced by using a relatively small amount of grain, or with nitrogenous concentrates in connection with silage and some other cheap roughage in the form of hay.

The principle that should be avoided in future feeding operations, according to the advice of the Department of Agriculture, is to reduce to a minimum the amount of high-priced feed and to make judicious use of cheap roughage. In other words, instead of feeding from 50 to 60 bushels of dry corn per steer in a long feeding period, as was the custom in the past, the quantity should be, and may be profitably, reduced to 15 to 20 bushels in a shorter feeding period, or the dry corn grain can be eliminated altogether, as the liberal use of good quality silage will furnish an excellent ration. The use of cottonseed meal, linseed meal, or other protein-rich feed, even though high in price, is to be highly recommended, because the higher other feeds are, the more profitable becomes the use of protein supplement. Expensive hay may be completely eliminated in the ration by the use of a cheaper dry roughage such as corn stover, coarse hay, or straw.

Eliminate Threshing Waste

It is estimated that from 1 to 10% of the wheat crop is lost to the country by hurried and careless operation and inefficiency of threshing machines. In some sections, however, losses are materially greater than in others. Waste in threshing depends largely upon the condition of the machine as it enters the harvest field and the care with which it is operated. While it is believed that the majority of machines operate satisfactorily, conservative estimates indicate that on an average:

One and one-half bushels in every hundred threshed can be saved by having all machines go into harvest (1) in excellent repair; (2) with ample power; (3) by providing that during harvest they are efficiently adjusted to meet varying conditions.

One bushel in every hundred threshed can be saved by having all machines in such repair that little or no grain leaks under and around them on the ground, and providing that what does leak out in this manner and otherwise scattered by the machine is cleaned up and threshed before the machine leaves the field.

Three-quarters of a bushel in every hundred threshed can be saved by careful handling of bundles from the shock to the machine or stack and by arranging the bundle wagons so that all grain which shatters in them is caught and saved.

Thus it is estimated that a total of three and one-quarter bushels in every hundred threshed may be saved.

Chief among the sources of waste are:

1. Threshing when grain is tough (damp and unripe).
2. Carelessness in keeping the thresher's cylinders up to speed and in adjustment, of blower, etc.
3. Improper adjustment and dullness of teeth.
4. Carelessness in feeding bundles or headed grain into the machine.
5. Carelessness in allowing grain to leak on the ground around and under the thresher.
6. Careless scooping of grain and bad order of wagon boxes.
7. Carelessness in raking field and shock rows.

Efficiency in threshing operations is also promoted by the careful selection and instruction of men for certain duties. Men who pitch the bundles of grain into the thesher, for instance, can assist materially in clean threshing by discontinuing the rather common practice of overfeeding the machine in the effort to hasten the work. This is one cause of serious loss, especially when the bundles are large and damp.

Every effort should be made to watch and stop these leaks. Sometimes farmers attempt to justify such waste on the ground that the stock will be benefited when turned in. This year, however, wheat is so greatly needed for human consumption that every grain possible must be saved.

Fighting Alfalfa Weevil

In order to assist the farmers in the fight against the alfalfa weevil, the Utah Experiment Station has just issued Circular No. 31, "The Alfalfa Weevil" in which Professor Harold R. Hagan has summarized the essential information for controlling the pest. The suggestions contained in the circular have already been tried by farmers in various sections and found very effective.

Weevil injury to the alfalfa crop of the west aggregates an enormous sum annually. This insect first appeared in Salt Lake county in 1904, from where it has spread into adjoining states and is still spreading.

The over-wintering adult weevil appears in the alfalfa field in the early spring as soon as the crop has commenced growth. Shortly after, the female deposits her eggs in the tender stems of the alfalfa plant. Upon hatching, the larvae work their way up the stems to the green growing tip, on which they feed. It is rather difficult, therefore, to get a good first crop. After the weevil larvae are fully grown they seek shelter, usually in the dead vegetation at the alfalfa crown. From cocoon, the adult insect soon appears.

The farmer should use every available means to bring the crop to an early maturity. Early spring disking and the best irrigation practice assist in this. If the alfalfa is unable to reach maturity it should be left until most of the eggs have hatched. It should then be cut and the hay removed as quickly as possible. The field should then be gone over carefully with a spring-tooth harrow, followed by a brush or wire drag. This breaks up the surface of the soil, stimulates growth of the second crop, tears all green stems from the alfalfa crowns and starves the larvae, makes a fine dust mulch which heats under hot sun and burns and suffocates the larvae, and crushes or drags out into the mulch all the larvae hiding in the alfalfa crowns. The field must be dry to produce a fine dust. A few days later the crop should be irrigated.

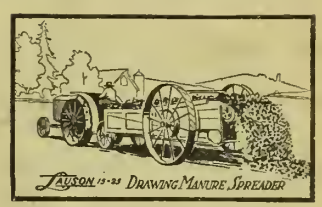
A free copy of this circular, which contains a chart showing the life history of the alfalfa weevil and directions and illustrations for making a brush drag, may be obtained from the Utah Experiment Station, Logan, Utah.

Take what you eat; eat what you take.

Food is sacred. To waste it is sinful.

Motorize your Farm

Make up your labor shortage with power farming machinery. Put every acre under cultivation. Get away from the drudgery. Select a Tractor—a LAUSON 15-25—and get year 'round service in the field and at the belt.



The John Lauson Manufacturing Company of New Holstein, Wisconsin, is one of the old, responsible manufacturers of farm engines noted for their saleability and serviceability. The same experience is responsible for the success of the LAUSON 15-25 Kerosene Burning Tractor. It is built with the same care and precision which has characterized the LAUSON Frost King Engine for twenty-three years.

The LAUSON 15-25

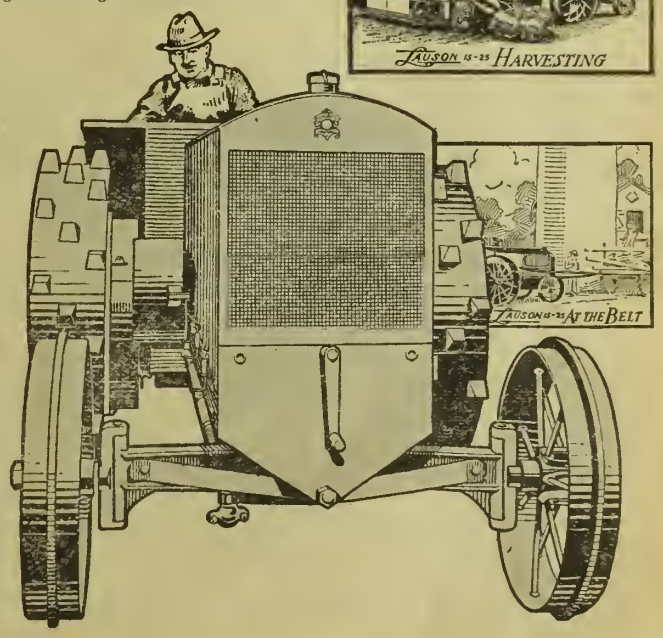
DUST PROOF-ALL GEARS ENCLOSED

The LAUSON 15-25 insures better farm work and more of it. It will do all your plowing and do it better. It will do the discing and harrowing; heavy hauling or grading; pull stumps or manure spreader. Has a 30 per cent surplus capacity engine especially suited to belt work.

With the LAUSON 15-25 you can afford to own your ensilage cutter and fill the biggest silos in the shortest time when your corn is ready. You can grind feed, bale hay, do neighborhood threshing—everything and anything a small farm engine will do. The fuel is kerosene or distillate—half the cost of running gasoline engines of the same horsepower. Check the Specifications.

SPECIFICATIONS

RATING—Drawbar H. P. 15; Belt H. P. 25.
ENGINE—4½-inch bore by 6-inch stroke—Valve in head.
NUMBER CYLINDERS AND CYCLE—Four.
NORMAL SPEED—R. P. M. 950.
LUBRICATON SYSTEM—Splash and force feed.
IGNITION—Dixie Magneto.
CARBURETOR AND FUEL SYSTEM—Kingston Gravity Feed.
COOLING SYSTEM—Perfex Radiator.
BELT PULLEY—18-inch by 8-inch; 475 R. P. M.
TRANSMISSION—LAUSON Selective Type—sliding gear.
NUMBER SPEEDS FORWARD—Two.
SPEED, M. P. H.—Low, 1¾—plowing 2½—high 2½.
NUMBER WHEELS—Four.
DRIVE WHEELS—54-inch diameter; 12-inch face.
GUIDE WHEELS—32-inch diameter; 6-inch face.
WHEELBASE—86-inch.
TREAD—52-inch.
TOTAL WEIGHT, Less Fuel, Water, Oil and Lugs—5,750 pounds.
SHIPPING WEIGHT with Standard Equipment—6,000 pounds.



The LAUSON 15-25 will earn its way on any farm of 100 acres or more. It is a guaranteed three-plow tractor, with four-plow capacity under favorable conditions.

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1126 Monroe Street, New Holstein, Wis.

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That San Luis Valley Problem

Assuming as approximately correct the estimate that nearly half a million acres of irrigated land in the upper San Luis valley is being forced out of agricultural use and going back into pasture or marsh, a little computation shows us a money loss, land values alone considered, of not less than fifty millions of dollars. It has been known for some years that crop production in that part of the valley was on the decline. Abandoned lands, closed mills and elevators and deteriorating towns were proof of it. But by common consent a policy of silence has been followed and the subject has been discussed only in whispers because, "It might hurt the valley."

While public discussion would not have averted the result, it is ppssible that earlier realization of the extent of the damage might have caused a more determined effort to solve the problem. However that may be, the time has come when it can no longer be passed over in silence. There is too much involved, especially in these times of pressure for food, to allow such a vast area of once highly productive land to pass out of use. As has been pointed out in an article on another page of this issue, the problem is too large for individual farmers, or even for the San Luis valley as a whole to solve. The people of that section need the active support of the state government, and the national government, if need be, to help them bring back the lands that have been ruined by the successive accumulations of sodic carbonate or black alkali, brot up thru unwise practices of irrigation.

Dr. Headden, in his bulletin, "The Waters of the Rio Grande," which represents the results of ten or twelve years of careful study of the problem, tells us: "Evaporation at the present time is sufficient to add 145,500,000 pounds of sodic carbonate to this section of the valley yearly. * * * The present agricultural condition of this section of the valley is due to the accumulation of this salt, black alkali, rather than to an excess of water."

Another significant statement from this bulletin is: "I believe that the sodic carbonate owes its origin to the fact that the drinage south has been no better since the valley itself was formed than it is now, and for the same reason as now. The bed of the Rio Grande has never been cut down so as to let the water north of it drain southward out of the valley.

"The conditions which obtain and are inimical to vegetation can be ameliorated by rational irrigation, chemical treatment of the soil and surface drainage where needed."

The bulletin from which the above extracts are quoted has been in circulation almost a year, yet there have been no signs of community action toward trying the suggested remedies —application of gypsum to neutralize the effects of the black alkali and abandonment of the practice of subirrigation, substituting flooding and furrow irrigation therefor.

One of the interesting phases of the problem is that in reference to the Rio Grande, which stream traverses the valley for a distance of sixty miles, yet furnishes no drainage for the section lying north of it. In the development of irrigation in the Rocky mountain region no engineering problem has been found too intricate for solution of the capital and brains applied to it, and it is not too much to hope that some way will be found to make the Rio Grande answer its evident purpose of furnishing an outlet for what should be its natural drainage basin. Engineers have not balked at filching the waters of the Pacific and carrying them under the backbone of the continent, to lead them out upon the Atlantic watershed; they have tunneled the bowels of the earth to drain the gold deposits of the Cripple Creek district, and they should not shrug their shoulders over a task that involves the permanent productivity of half a million acres of land, with all the crop wealth which that figure infers when applied to the future. It is plain that the problem will remain impossible of solution just so long as the present attitude of hopelessness is maintained toward it.

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Stockyards Now Licensed

Every commercial stockyard in the country will be licensed by the United States government beginning July 25th. The regulation also requires licenses to be procured by all commission merchants and livestock dealers who operate at any stockyard. This action is taken under authority of the Food Control act, which brings all dealers in food necessities under regulation of the federal government, and follows the recommendations of a special committee appointed by President Wilson at the suggestion of Food Administrator Hoover. This committee was composed of the Secretary of Agriculture, Secretary of Labor, Food Administrator, and the chairmen of the Tariff Commission and Federal Trade Commission.

Power to administer the regulations was placed in the hands of Charles J. Brand, chief of the U. S. Bureau of Markets.

This action is the outcome of a meeting held in Washington last March by an advisory committee of farmers and stockmen, on which the Rocky Mountain region is represented by John Grattan of Broomfield, Colo., and F. J. Hagenbarth of Idaho. This committee, besides recommending the licensing system, also suggested a system of establishing government grades for the marketing of farm animals. It is understood that this grading system is now being worked out. The Bureau of Markets has already establishhed a daily market report service from Chicago, which is being accepted by the press associations and newspapers of the country in lieu of the private reports formerly issued.

These steps virtually complete governmental control of the livestock and packing industry, and while they have been adopted as war measures, the effects of their operation will demonstrate whether or not this vital industry shall remain in control of private hands or be operated under strict supervision of the government.

The recent announcement of findings by the Federal Trade Commission regarding packers' profits shows clearly the need for regulation and control. The producer and consumer will never consent to a return to the pre-war system of unregulated private monopoly of food products.

★ ★ ★

Fixed Rates for Threshing

The Oklahoma State Council of Defense has set an arbitrary rate beyond which threshermen cannot go this season in their charges. The maximum, where the farmer furnishes the labor, etc., is 7 cents per bushel, and 17 cents where the thresherman furnishes everything. In Kansas, where no fixed schedule was adopted, the rate varies, in some cases being as high as 10 cents, where the farmer furnishes labor and 20 cents where the thresherman furnishes everything.

The Oklahoma rate of 17 cents applies to wheat threshed from the shock; where threshing is from the stack the rate is 12 cents if bundled and 13 cents if headed grain. For oats the rate has been fixed at one-half that for wheat under similar conditions. The Oklahoma plan also makes it illegal for threshermen to accept bonuses, or for farmers to pay them, it having been the practice in the past for such bonuses to be offered and paid where farmers wanted their work done first.

The Oklahoma schedule was arrived at after repeated meetings between committees of wheat growers and of the Threshermen's association.

An effort is being made in Colorado to work out a similar schedule to apply during the threshing season soon to open.

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Loyalty in War Time

Loyalty in peace times and loyalty in war times are two distinct things. Not much is required to pass the loyalty test when one's country is not at war; a simple compliance with the law is all that is required.

But loyalty in war times is not a passive quality. At such a time one may be without loyalty and still not be disloyal. A person of this type will do nothing either to assist or to harm his country. He will not give himself to his country's service and he will not contribute financial support. Neither will be discourage others from doing this. He will do or say nothing treasonable, and neither will he do or say anything to put heart in the fighting forces or to uphold the Nation in its struggle. He will be simply a passive onlooker. And that is not being loyal.

Our country is fighting in the most desperate struggle of history. It is a struggle so vast and momentous as to demand the most complete support of every one of its citizens. Passive loyalty—the loyalty of peace times—is not sufficient. The brand of loyalty now demanded is the kind that impels one to offer himself and his all, if necessary, that his country may be victorious in the great conflict.

Most of us can not go into the fighting forces; most of us can not enter into those industries directly connected with the war, but all of us can show our neighbors that we have the right brand of patriotism.

Our Government is urging upon us the necessity of saving as an essential to victory. We are told that there is not enough man power and not sufficient materials in the country to win a quick victory if we continue to use this man power and these materials as we did before the war. It is pointed out that there are now more than 2,000,000 men in the Army and Navy, and that by August 1 this number will be increased to 3,000,000, with a steady addition to that number from then on. These men not only cease to be producers, but they become consumers on a vast scale.

Thus it is that we are urged to buy only those things which we need in order that we shall not use up labor and waste materials and transportation, so vitally necessary to the Government in its war work and so much needed in the manufacture of things essential to the health and efficiency of our citizens.

By following the Government's request to produce to our maximum capacity and to consume as little as possible, we shall give practical expression to our loyalty—a militant loyalty, the brand which stamps us as being willing to do our part at home by sacrificing, by getting down to a war basis, by backing up our Government with all our strength. With our money savings we can then buy War Savings Stamps and Liberty Bonds and perform a double service by giving the Government current funds with which to buy the labor and materials so much needed for war purposes which we have refrained from using. That is loyalty.

★ ★ ★

Increase the world's bread ration by growing more breadstuffs and eating less.

The Branding Iron

Applied by Elias M. Ammons

People should pay no attention to talk about suspension of the enlarged or grazing homestead act. The "nigger in the woodpile" which many of the preachers may not recognize is the attempt to perpetuate the open range condition. The men back of this scheme are treating it purely as a business matter. So long as land remains in an unsettled, wild state it will be cheap. On the other hand, land will not be put to its best use, production will not increase, population will not grow, educational and social advantages cannot be materially bettered, nor highways constructed. In short, the tenantry system will stop advancement and check our farm and ranch output—the most unpatriotic thing we could do at the present time.

When this act was passed every possible effort was made to cripple it, and a secret lobby got busy to prevent or postpone its operation. These interests have insisted that the homesteader should wait until the land could be classified, and have used their influence to prevent an appropriation to pay the expenses of classification. They entirely overlooked or refused to recognize the fact that the best man to classify the land is the settler himself, who is willing to spend his time and money improving it and building a home. The next move was to postpone the operation of the law until after the war, presumably to prevent a decrease in meat animals. When it was shown that meat production during the past score of years has increased in direct proportion to the breaking up of the big ranges and the settlement of the lands, the scheme was abandoned.

The latest plea is that application of the enlarged and grazing homestead act should be postponed until after the war to give the returning soldiers more land from which to choose. This plan was expected to appeal to the national capital. As a matter of fact, only a small percentage of these men will want homesteads. Many of them have been trained in the professions, in business or the industries, and expect to return to those vocations. Most of those from the West who want homesteads already have them. After all the settlement we can secure there will be millions of acres left for those who want them, when the boys come home. In the meantime let us settle what we can, increase the crop and meat production to win the war, and pass laws just enough and sufficiently attractive to settle every acre of the public domain when the boys return.

* * *

In thirty-five days the Agricultural college at Fort Collins built and equipped a mess hall for 500 recruits and students who are being given technical training for the army.

* * *

It is said that more land has changed hands in Douglas county, Colorado, during the past few months than for many years past. For the most part, prices have been materially advanced over those prevailing a few years ago. The location of this county and the desirability of its lands for summer homes are sure to lead to great improvement in the near future.

* * *

Thousands die every year from over-eating—don't dig your grave with your teeth.

* * *

In spite of the unprecedented prices of beef and the great demand for cattle, there has never been in the history of the Denver yards such a large proportion of cows sold for slaughter. This is directly contrary to what the government has hoped for. It will be impossible to secure meats at a reasonable price unless the supply can be increased; this will not be accomplished by killing the productive cows, but exactly the opposite result will be obtained. It is dangerous to say to any cattle owner which cows he should keep or which he should sell, because he is the best judge; something should be done, however, to create a sentiment against the wholesale slaughter of the breeding stock of the country.

Comment by Farmer Putnam

HORSE SENSE FARMER FROM MISSOURI SOLVES SAN LUIS VALLEY DRAINAGE PROBLEM

WHEN a feller scatters hisself all over the country fur a coupla weeks he cain't git his brain to work to figger out just where to begin writin' about what he seen. That's what I'm sufferin' from now—too much material. I'm goin' to let the editor tell about the scenery we seen and git right down to the practical facts, believin' that the farmers wants to know how to do things and not to read flowery words about mountains and clouds. Of course, mountains is fine to look at, but durn troublesome to climb over and awful steep and rocky fur farmin', and clouds is only good when they drop the rain at the right time—which don't happen very often.

So gittin' down to practical things, I'm goin' to give them farmers in the San Luis valley some free advice. Up in part of the valley they got a drainage problem; lots of water, but nowhere to put it. I listened to some of them experts talkin' about it and I never said nuthin', but just kept lookin' and lookin', and finally I seen the hull thing in a nutshell, and I'm goin' to solve the problem.

Like all great inventions, it's a simple little thing, and people will say, after they read it, why didn't we think of this before? Well, folks, them ideas don't come to everybody. I hain't had much eddication in a bookish way, but I been more or less of a expert on most every line in my life. I just foller my hoss sense and come out all right. I never knowed it to fail—exceptin' perhaps in dealin' with Josephine. My experience with wimmin is, don't fool yourself into thinkin' you know a thing about 'em. They is queer and no amount of studyin' by us men, however superior we may be, kin figger out just what they're goin' to say or do next. I've quit tryin' to solve the riddle of the female sex, but most other problems is easy fur me.

But that's gittin' offen the subject. Now about that drainage problem. You see, the San Luis valley used to be all covered with water. I reckon, from all I kin see, that it was the original Garden of Eden, that Noah's great cloudburst hit it, that the ark landed on top of Blanca peak and that Noah and the animals went down the east slope and out over La Veta pass, where they started a new Eden in the Cucharas valley, furgittin' about the old one that was still covered up with water. By and by the water soaked in and the sand kind-a dried off on top, and settlers begin to come in ag'in, the narrer gage was built, etc. Of course them historic facts is more or less well known, and I don't need to dwell on them further.

Now when things settled back after the flood went down the floor of the valley was changed, the weight of the water havin' caused the north end to tilt in the wrong direction, so's no outlet was left toward the Rio Grande. This made a kind of a sink along the east side, where all the water from that part of the valley runs into and fills up the ground, and then the water begins to back up in the ditches and raises the water table in some places so high that crops is ruined. Of course, they is more then one way of fixin' this. The best would be by findin' a outlet fur the water and the second by findin' crops that kin grow with wet roots.

I used to travel down south in the rice country, and I never seen flat plains that looks more like them rice districts of Arkansas and Louisiana than the San Luis valley. Rice has to have a long growin' season and don't stand a bit of frost, but the plants stands in water thru their growin' period and the fields hain't drained off till purty near ripenin' time. The San Luis valley has got ideal rice growin' conditions, as fur as water supply is concerned; all they need to do is to stretch the growin' season and prevent frosts, which is mere matters of detail that the experiment station kin work out. I'm predictin' that a little thing like changin' the climate ain't a-goin' to bother us much longer. The sun in the San Luis valley has got the record fur shinin' brighter and on more days in the year then any other region in America exceptin' Arizona. Down in the Saharey desert in Africa they been expirimentin' with machines to gather the heat from the sun and store it fur future use. I'm goin' to leave them few hints to Prof. Kezer with my compliments, and let him work out the rice growin' problem in the San Luis valley.

But that's only one way. The next thing and the best would be a little more expensive then leavin' it to Kezer, and I ain't so sure that it'll work out, but it's worth tryin'.

We got a big lot of dry land territory out in eastern Huerfano and eastern Las Animas county that's from 6,000 feet down to about 5,000. The San Luis valley is 7,500 feet high. Water runs down hill! Gee whiz, ain't it funny that nobody ever thot of that before? Simple as a twist of the wrist. Just dig a tunnel thru the Sangre de Christo range, put a big pipe line thru it and let the water run into reservoirs on the east side and trickle down onto them dry farms in the territory of Kidder and Charley Smith!

Of course somebody'll say, what about the black alkali that's in the water. Won't it hurt the dry farm crops like it does irrigated crops in the valley? I done thot of that too. Put gypsum in the reservoirs and that'll make the black alkali harmless before it gits a chanct at the crops. I got the thing all worked out in my mind and I'm furnishin' the plans free, so nuthin' is needed but the money to carry 'em out.

Now about the money, that ain't so hard as it looks. Dry lands is wuth thirty or forty dollars a acre. With water on 'em the value is more than double, so issue bonds ag'in the lands that's goin' to git water and bonds ag'in the lands that has the water took offen 'em, because both gets the benefit. In that way we'll provide fur buildin' the tunnel and reservoirs and have enough left to pay the promoter's fee and give me a little somethin' fur thinkin' out the idea.

THOMAS JEFFERSON PUTNAM.

England Rations Livestock

Extreme scarcity of concentrated animal feed in England has resulted in the establishment of livestock rations which are now in effect on the following basis:

Horses for farm work and transportation may have ten pounds per head daily.

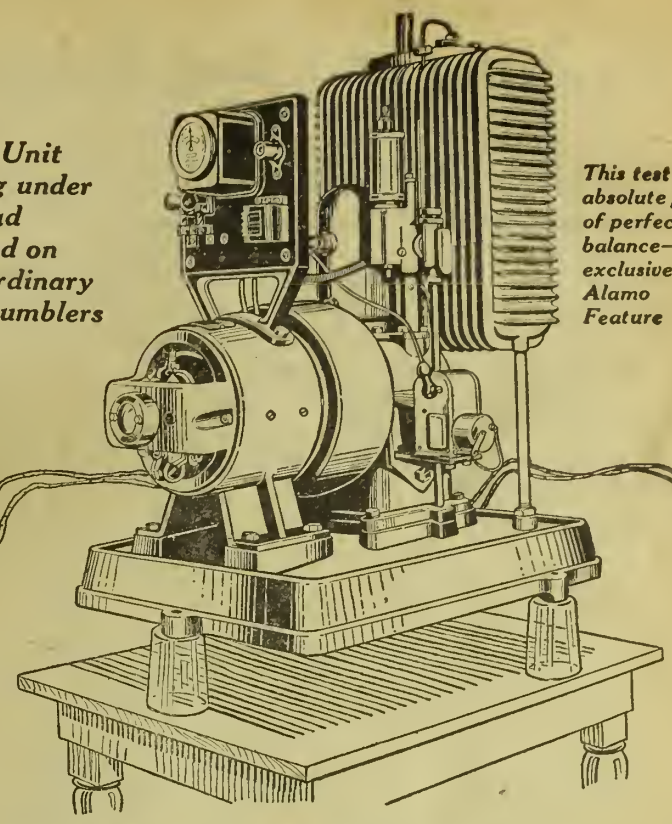
Milch cows not on grass may have a daily ration of four pounds of feed per head, which is to be reduced to two pounds after August 1.

No concentrated feed may be used for feeding sheep, pigs or cattle other than milch cows. This class of stock is expected to live on roots, grass, hay and similar products.

Protect Farm Animals From Flies

A mixture recommended for keeping flies off horses consists of two quarts of crude fish oil, one pint of crude carbolic acid, one ounce of pennyroyal, eight ounces of oil of tar, and one and one-half quarts of kerosene. If pennyroyal is too expensive it may be omitted.

This mixture should be put on with a spray. It is not sticky and will not injure the hair or skin. If used properly one gallon of it will be sufficient for two teams for almost an entire season. When the flies are troublesome apply a little of the repellant by means of a hand sprayer in the morning, again at noon, and it is well to make another application at night. This will allow the animals to eat and rest in peace.



Alamo Unit running under full load mounted on three ordinary water tumblers

This test is absolute proof of perfect balance—an exclusive Alamo Feature

The Electric Light Plant You Have Been Waiting For

MANY have waited for the perfected farm lighting system. Waited until all experiments have been made—tests and theories proven. All this has been done. The result is the Alamo Electric Unit—the perfected system.

The Crowning Achievement

For more than a generation the designers of the Alamo Unit have been leaders in Engine design and construction in this country—being the first in the United States to directly connect an engine to an electric generator. Their supreme effort is embodied in the Alamo Unit.

It is manufactured at the Alamo Factory by engine builders who for years have built electric lighting plants. For twenty years they have been successful designers and builders of gasoline engines for farm use.

The Alamo Electric Unit is their crowning achievement. It furnishes constant, even, smooth, never-failing power, having perfect running balance and is free from noise and vibration. A wonderful machine—the thousands sold and now in actual use—all giving satisfaction—is the convincing proof.

All the Light—All the Power You Need

The Alamo Electric Unit is just what you have always had in mind—a safe, complete, economical, troubleproof, simple, compact electric light and power plant.

Nowadays, when labor is short and every minute counts, the Alamo Unit will save its cost in actual work. It will supply you all the Electric Light you want about the house, barn and outbuildings. And plenty of power to run all light machines, such as the churn, the separator, the water pump and other conveniences about the house

The Simple, Compact Unit

The Alamo Unit is compact—Ide Super Silent Engine, generator, switch-board and radiator are mounted on one base. No special foundation is required. (No belts or chain connections are used.) It is so perfectly balanced and smooth running that it will operate under full load when mounted on three ordinary water tumblers. (See picture above.)

Let Us Send You Our Book

This book fully describes and illustrates the Alamo Unit. Read this book, then decide. We will send it free—just send your name and address—a postal will do.

ALAMO FARM LIGHT CO., 1211 Farnam St., OMAHA

Use Alamo Electricity

"The Perfectly Balanced Electric Unit"

A MAGNIFYING GLASS

reveals the tiny pores and seams in an axle. These rough places are the main cause for friction. Use

MICA Axle Grease

on your axle and prevent friction. Made of the finest grease stock and powdered mica. It fills the pores and gives the axle a bright, hard coating. Does not gum or stick. Sold by most dealers in 1 and 3 pound lithographed tins.

THE CONTINENTAL OIL CO.
(A Colorado Corporation)
Denver Pueblo Sa't Lake City
Cheyenne Butte Albuquerque Boise

For cattle, use two parts of pulverized resin, one part of soap shavings, one-half part of water, one part of kerosene, one part of oil of tar, one part of fish oil, and three parts of water.

In making this, boil the resin, soap, and one-half part of water until the resin is dissolved and then add the three parts of water.

In making this, boil the resin, soap, and one-half part of water until the resin is dissolved and then add the three part water, oil of tar, kerosene, and fish oil, and boil well for 15 minutes, being careful to keep the mixture well stirred. Put it on with a brush when cool. In using this mixture it will be necessary to make an application every day for two or three days, and after this once every three or five days is sufficient.

Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Breeding Jerseys

The Jersey held the field as a dairy cow in Colorado during the early years of dairying. The breed is now the favored one in a number of sections of the Western Slope, and is found on farms all thru the state. Near the cities where fresh milk is being supplied for retail trade, the Jersey has been displaced to a certain extent because of the lower yield of milk compared with the Holstein.

There is a large amount of butter manufactured in the state and a great amount of sour cream brought to local creameries and shipped to centralized creameries, especially from our eastern plains region. Here the Jersey has proved her efficiency in producing butterfat on short grass, and as the foundation cows thruout this section mostly have Shorthorn blood in them, and the Jersey always crosses well with the Shorthorn, there is an active interest among Colorado breedrs of Jersey cattle in attempting to supply a dairy cow that will prove satisfactory for these conditions. This may be one of the reasons why Colorado breeders emphasize size in Jerseys. Dairying in this section is not carried on in close quarters with the cows sheltered most of the time. Instead, the cows rustle most of their feed on native grass in summer time, and must be content with corn fodder silage, and very little concentrated feed in the winter time, being put in the barn only at milking time or during the coldest weather.

In addition to the call for a cow that can stand these conditions, breeders in the west feel that there is some correlation between the small size and refinement of many Jerseys and the admitted difficulty found in raising many Jersey calves. In general within any breed, calves from the larger, more robust cows, are more vigorous at birth and are raised more easily than the calves from cows of extreme quality and under-size. The tendency in the west is to put stress upon size in any dairy breed, and it is reasonable to expect therefore, that it will be particularly sought in the smallest of the well-known dairy breeds. In addition to size, the western breeder is looking for records in the history of the animals which he is using. This, I believe, has been one of the greatest mistakes of Jersey breeders. One can pick up the sale catalogs of Holstein breeders and Jersey breeders of comparable standing, and the one catalog quotes records, while the other quotes show winnings. I do not wish to minimize the importance of type, but most of the prominent breeders of the country have attained to a fairly high degree of type in their stock, and the buyer wants, in addition to that type, evidence that the animals have producing ability.

It is true, of course, that many Jersey breeders minimize the value of the seven day test, and the policy of most of the men connected prominently with the advancement of the breed has been not to push the seven day test to any great extent, because they believe it to be misleading. We may grant that the forced seven day test is no measure of what a cow will do in a year, and we may also grant that in the seven day test records, the Holstein is likely to far exceed the Jersey, because the Holstein has a bigger frame and can have more fat loaded upon her body to be milked off during a seven day test; but granting both these things, men who want Jerseys would like to have some measure of the relative merit of two or three Jerseys which they may be deciding between, and the seven day record furnishes that in some degree.

The yearly record is far better than the seven day record, but it takes some education to get breeders to make records at all, and the seven day record is a cheap and convenient stepping stone to the yearly record. To my notion, any record on a cow is better than no record. Certainly the breeder who wishes to get the best possible sale for his cows must make records, and he should start with stock which comes from ancestry with reasonable records. There is little question but a great change is coming over the attitude of many Jersey breeders in the east as evidenced by sales prices being given for American bred stock with records in comparison with Island bred stock. A few years ago all prices were in favor of the Island bred stock with show winnings, regardless of records, but now it is the record stock that sells best both of Island type and American type.

In small herds, and particularly here in the west where many of our herds are new, it does not pay to go to the extreme in buying extra high class stuff. There is not yet the market for it in the west at prices which will earn interest on the investment, but one should buy good stock. The history of breeding shows that the vast majority of exceptional individuals born are not from exceptional parents but from the great run of good parents of the race, and if one shows good judgment in selecting, the cheapest way to get high records into your herd is to make your own records on your own stock. I wish Jersey breeders in this section could be impressed with the immediate importance of making records. The Jersey, throuout her entire history, has shown her capacity for great and economical production and she should not be allowed to fall behind in the procession because the breeders are slow to offer good record stock for sale.

Another point that must be considered in the breeding of Jerseys is one of color fad, which has crept into so many breeds. Solid color Jerseys sell for more than broken color. A breeder must always recognize to some extent any fad which means a higher or lower price upon the young stock which he has for sale. We should not, however, allow good cows to be discarded from use because of their color. One is very nearly compelled to use a solid color bull because from one with broken color, too many calves will carry the low price feature, if the bull transmits his color marking. A campaign should be carried on, however, to educate the ordinary Jersey buyers that color has absolutely nothing to do with milk production, and that the breed is being hurt by discrimination against animals with white on them. The Jersey has two outstanding features aside from production, which aid in maintaining the popularity of the breed, and these are beauty and docility. Time and again it has been proved that men are willing to pay for beauty in their domestic animals, and gentleness is always of value in dairy cows. Breeders of Jerseys must take all these points in consideration and build herds of uniform quality and band together to advertise the merits of the breed, as the breed undoubtedly can hold its own if those who handle it develop the strong points of the breed and make its merits known.—G. E. Morton.

Limiting Cheese Profits

Regulations governing the transactions of cheese manufacturers, dealers and commission merchants have been issued by the Food Administration. The rules are designed to prevent the sale of cheese at an unreasonable advance over cost, to limit commissions and to reduce the number of resales to the minimum. The price paid to the producer for cheese is not affected.

It is expected that this action of the Food Administration will make the movement of cheese from the producer to the consumer more direct and will eliminate speculation. By limiting the profits, and with the assistance of the fair price committees lately organized, the retail price should be kept at a lower level, thus encouraging consumption.

In the past it has been the custom of many dealers to base their selling price on the replacement value at the time of sale; but now they must sell their stock at not more than a reasonable advance over the actual price paid for the cheese.

No room is left for misunderstanding regarding what constitutes the cost. It consists of the actual purchase price, transportation charges, cost of paraffining, not to exceed one-fourth cent a pound, and storage, insurance and interest charges, providing the cheese is stored more than thirty days. No allowance for shrinkage in weight or for commissions or any other expenses not listed can enter into the cost figure. Reasonable margins in sales of various amounts are defined.

By the new regulations, licensed dealers are restricted to a commission of not more than one-half cent a pound nor are commission merchants permitted to receive more than that on the kinds of cheese covered by these regulations. Attention is also given to resales to prevent "transactions that savor of dealing in which a profit accrues to the dealer without corresponding service."

J. A. Roberts, cattle expert, formerly of Waukesha, Wis., has purchased the widely known Wm. Nelson Pelouze farm in the limits of Oconomowoc, Wis. On this farm is one of the finest barns in the state of Wisconsin—in fact, this is one of the many "show" places around beautiful Oconomowoc. A gently flowing gravel bottom stream will furnish water for the Roberts calves. His business is $25 Holstein calves. We believe we are safe in saying that he has sold as many Holstein calves during the past year as any man in the state. His calves are nicely marked and all of them sired by registered herd bulls. Prospective buyers can find anything they want in Holsteins—calves or matured cows, one or a carload.

72 page catalog mailed upon request

DE LAVAL
CREAM SEPARATORS
Save Cream, Time and Labor

Save Cream: If you are trying to get along without a cream separator, or are using an inferior or half-worn-out machine, with butter at 40 to 50 cents a pound, a De Laval would soon save enough cream to pay for itself.

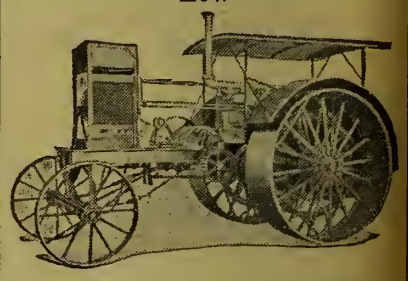
Save Labor: A good cream separator is a big time and labor saver. And this year, more than ever before, time saving and labor saving on the farm mean money saving.

There is no other cream separator that can compare with the De Laval in clean skimming, capacity, ease of operation, freedom from repairs, and durability.

Order your De Laval now when you need it most and let it begin saving cream for you right away. Remember that a De Laval may be bought for cash or on such liberal terms as to save its own cost. See the local De Laval agent, or, if you don't know him, write to the nearest De Laval office as below.

THE DE LAVAL SEPARATOR COMPANY
165 Broadway, New York 29 E. Madison St., Chicago

Fuel Consumption Unusually Low



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Backed by an organization successful for 18 years. Distinguished for quality production.

The long time record of efficiency and durability on the farms of America, with hundreds of successful and enthusiastic owners behind **Flour City Tractors** is an incontestible guarantee that THEY MAKE GOOD.

If you want a tractor to deliver MAXIMUM SERVICE at a MINIMUM COST, then your choice will be a **Flour City.**

Made in five sizes, 12 to 40 H. P. at the Draw Bar.
Write for Catalog and Testimonial Book.

Kennard & Sons Mfg. Co.
897 44th Ave., No.
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Clean Milk Without Frills

Milk with a low bacterial count can be produced in practically any cow barn. Any dairy farmer with a healthy herd can produce such milk with an investment of only $10 or $20 and a little extra care. The U. S. Department of Agriculture in an experiment produced low bacterial count milk in a poor dairy barn.

The only changes made were simple steam sterilizer for utensils; clean cows, especially clean udders; small-top milking pails; proper manure removal and good bedding.

The bacterial count fell from as high as 1,200,000 to an average of 2,154. Low bacterial count is the beginning of good milk, but milk must also be safeguarded from other contamination likely in a dirty barn. There is no legitimate excuse for the production of milk from dirty cattle or in a filthy stable. In addition milk must be properly cooled to prevent the multiplication of bacteria.

The dairy specialists of the U. S. Department of Agriculture proved in a practical experiment that reduction of bacteria in milk is not dependent upon expensive equipment. For the purpose of this experiment, four cows were put in an ordinary frame barn. An untrained worker was employed to milk and care for the animals. No extra attention was devoted to cleaning the barn. At the end of six months the barn was no cleaner than many commercial barns.

Without any changes in barn management the specialists had two cows milked into small-top pails and the two others were milked into ordinary open-top pails. The milk from the open-top pails averaged 497,653 bacteria. The milk from the small-top pails averaged 368,214. The use of the small-top pail, without any extra precaution, made a difference in the average count of 129,439 bacteria per cubic centimeter.

The pails and cans were sterilized with live steam, which can easily and cheaply be done with a simple steam sterilizer, which can be made at home or can be purchased complete for about $10. Other conditions remained as before. The milk from the sterilized small-top pails averaged only 17,027 bacteria—a reduction of 351,187 in favor of this simple sterilization. With the open pails, sterilization reduced the bacteria to 22,677—a decrease of 474,976 compared with milk from the unsterilized open pails.

In the third step of the experiment the manure was removed from the barn twice instead of only once a week. The udders and teats of the cows were washed before each milking. These reasonable measures of cleanliness reduced the count in milk down into the sterilized small-top pail to 2,886 bacteria, and in the sterilized open-top pail to 6,166 per cubic centimeter.

To make it easier to keep the cows clean, in the final stage of the experiment the manure was removed daily, clean bedding was supplied, and the cows were cleaned with a currycomb and brush. With these final precautions the bacterial count in the small-top pail averaged the very low one of 2,154 per cubic centimeter, or 1,197,847 bacteria less than were found in a sample when the barn and cows were dirty and the utensils were not steamed.

The Warnock Sale Makes Shorthorn History

Continued from Page 3

Royal Queen 14th (532649), coming three years old, to C. V. Owen for $725.

Model Beauty (493244), two-year-old prize-winner at Chicago, Denver, Portland and Salt Lake City to H. W. Irwin for $1,800.

Maid Myra (493242), coming three, bred to Model Type, to C. V. Owen for $1,500.

Plainview May (559319), two-year-old, bred to Advocate's Model, to Thomas Andrews for $850.

Lady Jane (21184), three-year-old, bred to Model Type, to Wilson & Son for $925.

Lavinia 4th (81038), ten-year-old, with bull calf at foot, to H. W. Irwin for $1,200.

Imp. Millcraig Princess (131035), aged three years, heifer at foot and rebred to Advocate's Model, a Miss Beverly cow of J. and A. G. Ross, Alness, Invernessshire breeding, to Weaver & Meeker for $1,475.

Lady Douglas 6th (227812), a four-year-old, bred to Model Type, to Agricultural College, Fort Collins, for $750.

Type's Gladsome 2nd (666257), yearling, to Haigler Ranch, Haigler, Neb., for $850.

Model Orange Blossom (583916), a yearling prize-winner in the calf herd, to C. A. Petrie for $1,025.

Symphony (465799), four-year-old, to B. F. Humphreys, $1,025.

Emma 21st (116537), seven-year-old, to Haigler Ranch for $700.

Rose Fairfax (196866), coming four-year-old, to C. A. Hauf, Glendo, Wyo., for $1,225.

Daisy Goods (555997), two-year-old, to C. V. Owen for $750.

Choice Model (665558), a yearling bull, first prize-winner in the junior bull calf class at Denver last January, a coming herd header of double infusion Choice Goods-Cumberland blood, was sold to Wilson & Son for $1,200 and was considered a good buy at the price, as he has been pronounced by good judges to be the equal of Model Type at the same age.

Cumberland's Type 2nd (677248), a year old son of the Great Cumberland's Type, was picked up for $500 by Glen Martin of Boulder.

Imp. Secret Star (648140), a two-year-old from the Harding importation, goes back to Missouri, having been picked up by Scotty Milne for $500.

Demonstrator (516849), coming three-year-old bull, sold to Charles Matteson, Matteson, Colo., for $425.

When You Come to Denver

Visit the Denver Dry Goods Company

A Museum of interesting things from all countries that produce merchandise for wear or for use in the home. More than seven acres of floor space.

When You Are in Denver

You will naturally want to visit the largest store—much the largest—in the Rocky Mountain States. It is familiarly known as The Denver, and is owned and operated by The Denver Dry Goods Company. This store presents a unique feature in the great length of its main aisle—400 feet—the longest department store aisle in the United States. The main aisle of the Marshall Field Company—385 feet—approaches it most nearly.

You Are Urgently Invited

To spend a day here leisurely inspecting the many things you will enjoy in the great **two-million-dollar stock.** Use our spacious Rest Balconies, our Check Booth for Hand Baggage and Parcels, our Government Branch Post Office, and ask questions at our Information Booth.

We Trust That Your Visit

At the Big Store will become a reality and be long remembered as one of your many pleasant experiences in Denver.

NO VISITOR AT THE DENVER IS EVER IMPORTUNED TO MAKE PURCHASES

THE DENVER DRY GOODS CO.

56,000,000 Lbs. of Beans Shipped

Following is a report made to the United States Grain Corporation by the Bean Division of the Food Administration, regarding shipments of pinto beans:

In reply to your letter of the 8th regarding the total amount of beans purchased to date, we have the following figures available for you at the present time. On June 25th we will be able to give you the accurate figures of total amount of beans shipped:

	Pounds
Total amount of beans shipped June 1	48,000,000
Total amount of beans in storage for Food Administration June 1	1,859,000
Total amount of beans reported by shippers on hand June 1, purchased for Food Administration	6,141,000
This makes a total of	56,000,000

The last item of 6,141,000 pounds on hand by shippers June 1st, as reported by them, is only a shippers' estimate.

Upon shipping them out, we may have a hundred thousand pounds less or a hundred thousands pounds more, as a number of shippers did not have these beans cleaned and could only make an estimate of the good beans they would have after cleaning them.

Builds Caves for Hogs

These are not dugouts on the slopes of the Italian Alps built to shelter soldiers, nevertheless they are a part of the great war game in which the world is involved. These dugouts are hog shelters built by John Bruess on his ranch at Silt, Colo. The photograph from which the accompanying cut was made was taken by Mr. O. J. Clark, vice-president of the Interstate Trust Company of Denver, who, on a recent auto tour of the Western Slope, noticed the practical way in which Mr. Bruess has provided for his hogs. Mr. Clark's description of the picture is as follows:

"You will notice that the pens run to the side hill, where he has dug into the clay and made large apartments, which are cool in the summer and warm in the winter. I noticed that he kept the brood sows in separate pens, and each one had access to one of these holes in the clay, and each, with her litter, was using it, seemingly with some comfort, as it was a very hot day."

Broncho Bill On Horse Meat

Having read what others have to say in regard to eating horse meat, I would like to give my opinion of the matter.

I think people who want to eat horses have some of the character of the timber wolf, who will eat his best friend. The persons who wish to put horse meat on the market claim that there is a shortage of sheep, cattle and hogs. This may be so, but there are other kinds of meat without eating man's best and most faithful friend, the horse. Hundreds of pounds of good, wholesome meat is wasted each year, due to the ignorance of its real food value.

Thousands of prairie dogs and ground squirrels are poisoned each year, with never a thought that their flesh is good food. Some people do not know that the flesh of muskrats and coons is some of the best meat obtainable anywhere. I will say to those who wish to use horses for food: suppose you had a friend who had lived with you the greater part of his life, been your trusted friend and companion, and accomplished many tasks that you could not have done without his aid, how would you like to kill and eat him just because he was good to eat, or was too old to any longer work? Why not kill and eat people when they get too old to work? It is cannibalism; so is the eating of horses, and one is about as reasonable to talk about as the other. —Bronco Bill, Wiggins, Colo.

Calf Indigestion

Ans. to C. S., Wyoming:

Calf indigestion may be successfully treated by cutting down the feed, giving the calf a limited quantity only and very little rich feed. The following remedy is recommended:

Powdered nux vomica—one ounce.
Artificial Carlsbad salts—eight ounces.

Give the calf a teaspoonful of this mixed with a little water three times daily.

The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Hospitality

Granting that the usual social functions must be considered out of place at this time of stress when the truly patriotic woman is thinking only of helping win the longed-for peace, there is yet in the heart of the Christian woman, at all times, the desire for the happiness and well-being of others.

Therefore the spirit of hospitality which far exceeds social functions may find expression in many a little gathering of friends and chance acquaintances; and it is our duty as well as privilege to cultivate true hospitality in look, word and deed, remembering too, that all culture, refinement and beauty of character is not confined to the so-called "social set," neither does the gown make the woman.

Let us look beyond, neglecting no opportunity to cheer, uplift and strengthen as in other vacation days, and

"One day some heart shall say,
Your low song
Comforted or helped, or made
Me better, such or such
A time, when sorrow's weight
Pressed hard and cold,
Or dark discouragement
O'ershadowed me,
Or some temptation lured me
From the good; ———"

Junket

Junket has the merit of being one of the most wholesome of foods and many persons who do not care for plain milk can take it with pleasure in this much more digestible form. While the writer would like to write all she has learned about the use of junket since using it in the making of curd, in connection with "cottage cheese campaigns" space permits only the giving a few well tried and palatable recipes.

APPLE JUNKET: Make the junket as usual. Peel and core three apples, cook them with a little water until they are smooth and without limps; sweeten to taste, and add a little lemon juice and grated rind. Beat up the whites of two eggs until they are stiff, then gradually beat in two tablespoonfuls of granulated sugar. When the apple puree is cool, mix the two together, and beat until thoroly blended. When the junket is quite firm spread the apple meringue over it and garnish with a few preserved cherries.

JUNKET WITH FRUIT JELLY: Make some junket in the ordinary way, flavoring it with a little vanilla extract, pour it into glass dishes or saucers. When firm place a round of jelly on each dish of junket. The jelly may be apple, currant, gooseberry, or any red jelly which may be convenient. On this pipe a star of cream.

CARAMEL JUNKET: Required—one quart of milk, six tablespoonfuls of granulated sugar, one junket tablet and one tablespoonful of cold water. Put the sugar into a small pan, with just sufficient water to melt it, stir till the sugar is no longer visible, and cook (without stirring), until the syrup becomes a dark brown; then pour in a few tablespoonfuls of the milk and allow it to cook until strongly flavored and sweetened by the caramel. Add this flavored milk to the remainder of the cold milk and the tablet dissolved in the water. Flavor with a few drops of vanilla extract, and serve in custard glasses.

PINEAPPLE JUNKET: Make the junket as usual, flavoring it with pineapple juice; heap on it some whipped cream, sweetened, and to which has been added some chopped pineapple. Garnish with a few slices of the pineapple and serve with pineapple sauce.

JUNKET AND LEMON JELLY: Make some junket in the usual way. When the junket is quite firm chop the jelly and heap it on the junket. This is a good way of disposing of a little jelly which may have been left over from some other dish.

Housewives Urged to Can

The following are some of the facts and the Food Administration asks us to heed them:

Not only must fruits and berries be canned, but green vegetables as well. The importance of canning rests, it is said, not on local food shortage, but on the general shortage thruout the world.

That this condition promises to increase, food experts say, is certain, for the war will continue for some time and every month increases the dearth. Since the war started, four years ago, the food problem increased and prices have risen steadily. Prices today, compared with those of four years ago, it is said, show an advance of more than 50 per cent, with indications that another six months, even with bumper crops, will see further advances.

War gardens and home canning are the two agencies, according to the food administration, which must be depended upon to hold prices down.

Larger and larger shipments of food will be required by our Allies, while the drafting of hundreds of thousands of men in the United States will materially decrease the production.

Feeding the Child of Three

At the beginning of the third year the child's diet may be increased by adding more solid food, especially meats and vegetables. According to the U. S. Department of Agriculture every healthy child of three should have at least one food a day from each of the following five groups:

1. Milk and dishes made chiefly of milk (most important of this group in children's diet); meat, fish, poultry, and eggs.
2. Bread and other cereal foods.
3. Butter and other wholesome fats.
4. Vegetables and fruits.
5. Simple sweets.

The meats should be beef, boiled, broiled, or roasted; lamb chops; the white meat of chicken; or delicate fish. All meat should be free from fat, gristle, or bone and finely minced when given to the child.

Eggs should be very soft boiled, coddled, or poached, or soft scrambled. Fried eggs should never be given to a child; but the grated or mashed yoke of a very hard boiled egg may sometimes be used.

Meat broths made from mutton, beef, or chicken have little nutriment, but if these are thickened with arrowroot or corn starch, and especially if milk is added, they become a valuable food. Well-cooked vegetables, strained and added to warm milk, are not only good foods but serve to teach the child to like vegetables.

Cereals should be thoroly cooked and served with milk or thin cream and a very small amount of sugar or none.

Bread for a child should be at least two days old. Toast, zwieback, or hard crackers may be given once or twice a day.

Baked potatoes moistened with a little butter, thin cream, beef juice, or platter gravy may be given.

Asparagus tips, spinach, stewed celery, squash, string beans, carrots, young peas, well-cooked and mashed, or put thru a puree sieve, are all good for a child. A small portion of one of these vegetables may be a part of the child's dinner each day.

Fruits should be continually used. At this age sweet oranges, baked apples, or stewed prunes are most useful. The juice or mashed pulp of fresh ripe pears or peaches may be given in the third year, but there is much danger in using overripe or green fruit, as well as in giving too much. It is especially necessary to be careful in hot weather when fresh fruit decays rapidly. Bananas should never be given to a young child.

A child under 4 years of age should never have dried or salted meats, sausage pork, game, liver, kidney, goose, or duck. Fried and raw vegetables, hot fresh breads, cakes and pastries, salads, candy, sirups, tea, coffee, beer, cider, and soda water are all unsuitable foods for a child.

Club Boys Market Calves

Five Logan county boys went to Denver last week the proud owners of as many prize-winning cattle, which they had fattened themselves. Two of the lads were also the winners of cash prizes in the sums of $100 and $50 respectively, the money to be used for educational purposes.

Having won honors in the corn club last year the boys were given each a calf by the Haley-Harris Livestock company. This company then went further with its magnificent offer and announced that it would give $100 to the boy making the best showing in the finished animal, taking into consideration cost of feeding, increased weight and general appearance. Another prize of $50 was offered to the boy making the next best showing.

The five animals were brought to Sterling last week and the judging done on Main Street in front of the Haley-Harris offices, with the following results:

First—Gail Cook.
Second—William Vaughan.
Third—Ralph Kuhler.
Fourth—Virgil Rosenburger.
Fifth—Lyle Peterman.

On Thursday the boys took their stock to Denver, where the animals were sold at the following prices per cwt.: Cook's, $15.75; Vaughan's, $14.25; Kuhler's, $16.25; Rosenburger's, $14.50 and Peterman's, $11.25.

Following the sale the boys were taken to Lookout Mountain and in the evening they visited Denver City Park.—Sterling Enterprise.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2500—Waist. 2504—Skirt. Comprising Waist Pattern 2500 and Skirt Pattern 2504. Foulard, taffeta, batiste, dimity, dotted Swiss, organdie, shantung, crepe and satin are desirable for its development. The skirt may be made without the trimming. The waist is finished with shaped vest portions. The sleeve may be made in wrist or elbow length. The skirt pattern 2504 is cut in 7 sizes: 22, 24, 26, 28, 30, 32, and 34 inches waist measure. The Waist 2500 in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It will require 6⅜ yards of 40-inch material for the entire dress in a 38-inch size. The skirt measures about 2 yards at the foot.

2488—In organdie, batists, dotted swiss, foulard or linen, this model will be very attractive. It is nice also for crepe, gaberdine, serge and other wool fabrics. The bolero could be of contrasting material.

The pattern is cut in 3 sizes: 16, 18 and 20 years. Size 18 requires 5 yards of 36-inch material. The skirt measures about 1⅞ yards at the foot.

2507—Bordered goods, embroidered voile or batiste and flouncing, are just the thing for this model. The dress slips over the head, but additional opening may be made at the yoke fronts. The sleeve may be finished in wrist or elbow length.

The pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 8 requires 3¼ yards of 40-inch material.

2496—Here is a simple, one-piece model that may be finished with or without the jacket portion. Flouncing, embroidered batiste or voile, crepe, challie, dimity, lawn, dotted Swiss, silk and gaberdine could be used for this style. White organdie would be nice with tiny frills of pale blue or pink for decoration.

The pattern is cut in 4 sizes: 4, 6, 8 and 10 years. Size 6 requires 3¼ yards of 36-inch material.

On a Jitney Tour of the Famous San Luis Valley

Continued from Page 5

On the farm of N. E. Morgan I saw some of the alfalfa plots to which gypsum had been applied in large quantities, adjoining alfalfa that is growing on land not so treated. There was no apparent difference in the stand on this particular farm, but whether the alfalfa on the treated land will outlast that on the untreated, remains to be seen. Mr. Morgan has been making tests with barnyard manure and he is pinning his hopes on this as a humus adding and fertilizing element in counteracting the effects of the black alkali.

In looking for crops that will grow on badly alkalied land nothing has been found that does as well as sweet clover. It has been grown on some farms in the valley for ten years and been found to thrive where alfalfa would not live. The yellow variety is grown, because it matures earlier than the white, and it is said to be somewhat finer stemmed than the white. One farmer reporting on his experience with sweet clover states that he grew the crop on land too strongly alkaline for grain and after taking off the last crop of clover, plowed up the field and got a good yield of grain.

Another farmer, near La Jara, in reporting to E. H. Thomas, who formerly served as county agent for the entire valley, says:

ground that had patches of sweet clover ground that has patches of sweet clover over it amounting to about two-thirds of the area. Wishing to get rid of the sweet clover which, at that time, was anything but a popular plant, I thoroly plowed the land and while there was little moisture in the soil I disked and harrowed it until the sweet clover roots were well dragged to the top, where they died for lack of moisture. The land was then seeded to barley and irrigated. There was very little of the econd year's growth of clover left. The young clover, however, came up, but did not bother the growing crop. On this land, on the portion that formerly grew sweet clover, a crop of barley was harvested that was nearly double in yield to the balance of the field. There was no noticeable difference in the quality of the soil in this field."

These things merely indicate the search for light on the alkali problem and the necessity for concerted effort to have proven methods of alleviating conditions brot into general practice. At one time the entire valley joined in engaging a county agriculturist, E. H. Thomas, who worked with Dr. Headden of the State Experiment Station, on the black alkali experiments. It was found that no one man could cover such a large territory and then Alamosa and Rio Grande counties combined to engage his services. This, also, did not work successfully and finally Rio Grande county decided to "go it alone." Mr. Thomas resigned some time ago and left for larger labors in county farm organization work in another state, Mr. C. D. Hyatt being appointed in his place. Recently, also, Saguache county decided to establish the work and Mr. William O. Sauder, formerly with the United States Forest Service, was appointed. The counties of Conejos, Costilla and Alamosa are without county agent service. Each county has its problems of drainage and alkali damage and if each of the five had a trained agriculturist, working in cooperation with experts from the State Experiment station, more progress could be made toward redeeming the areas that are going back into sagebrush.

Three hundred miles by auto gave the writer a comprehensive idea not only of the size of the valley, but of its agricultural possibilities. Meat production is the chief business. On the mountain slopes cattle and sheep find ample summer range, descending to the plain in fall to convert alfalfa and field peas into fat. Hog raising is well developed, San Luis Valley pea-fed pork being a highly prized product. Hog cholera has been banished by co-operative organizations of hog growers, which employ scientific veterinarians by the year to look after the enforcement of sanitary regulations, the immunization of hogs and prevention of spread in case of a sporadic outbreak of the disease. Some years ago cholera almost wiped the hog industry from the map. On the advice of Dr. George H. Glover, head of the Veterinary Department of Colorado Agricultural college, the plan of employing veterinarians was adopted and it has been effective insurance against a repetition of cholera losses and well worth its cost.

Most of the pork and mutton turned out by the valley is made by turning the stock into the fields and letting them harvest the crops. Corn is grown only for roasting ears, and occasionally for silage, but here and there are farmers who believe that a variety can be developed that will mature grain. Trials are being made with some high altitude corn that is resistant to the light summer frosts. Barley is being grown to a greater extent and it promises to be the chief grain feed in time.

Potatoes are the big cash crop, the yields being as heavy as in any mountain section, and the quality fine. Lack of transportation interfered with the marketing of last winter's crop, but the previous year potatoes proved to be a bonanza for the growers. Many storage houses are being built in the spud districts, these being all above ground, dugouts being impossible, because of the high water table. While the milling industry is not what it once was, because of the ruin of wheat lands

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Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

It was unfortunate, but was probably unavoidable, that so many poultry raisers cut down their flocks so heavily or went out of business entirely, during the past year. The high price of feed was the cause in most cases, of course, tho scarcity of good help and high wages demanded, helped to bring about this condition. Uncle Sam has a right to expect the farmer to increase poultry production even under such conditions as exist, but certainly does not expect nor wish the commercial poultrymen, whose chief, and in many cases, only income is from his flock. There is money in poultry on the farm and the farmer can well afford to increase his flock, providing always that he use good judgment in the selection of his stock.

It will interest the readers of Western Farm Life to learn something of the mind of the powers that be at Washington regarding the poultry situation. The following is taken from the Reliable Poultry Journal, whose representative recently interviewed W. F. Priebe, Poultry Advisor to the U. S. Food Administration. We are giving only such parts of the interview as will interest our readers:

"I know very well that all poultry plants, the last six or eight months, that have had to buy the feed they use and rely on daily market prices for their cash receipts, have had a hard row to hoe, especially east of Buffalo, N. Y., and Pittsburgh, Pa. West of there is has not been so bad, except in non-grain producing sections beyond Kansas and Nebraska, yet I am afraid that nowhere during this period have the prices of market eggs covered the total cost of production, except in cases where expert practical knowledge has kept down the cost of feed and at the same time increased the egg yield per hen. This kind of efficiency is extra valuable under conditions that have existed."

"But I believe that the worst is over for our industry, that readjustments have taken place and will continue to work out, so that the poultry industry will fare much better, especially if we will view it as a whole—as a national asset toward winning the war."

At this point Mr. Priebe made the statement that by May 1st of this year there would be practically 2,900,000 cases of eggs in storage as compared with about 2,000,000 cases May 1st, 1917, whereon we asked him how this came about in view of an alleged shortage of 20 per cent in laying hens thruout the country.

Said he, in substance: "The unusually severe weather this season during December, January and the first half of February, held back the eggs. They were there in the hens. Then the latter part of February the whole country entered upon a period of moderate weather. The result was a deluge of eggs, unprecedented in number, week for week and day by day, and the quality was good. On account of the high prices obtainable for them, they were gathered promptly and sent to market."

Mr. Priebe was asked if in his opinion it is practical for the large packing concerns like Swift & Co., Armour & Co., etc., to control the poultry and egg market or depress prices seriously by manipulation. Replying, he said, in substance: "Emphatically no. Of the numerous reasons for this answer in the negative let me mention five which I think are enough: First, the countless sources of supply; second, there are too many of us in the trade; third, the packers buy and store less than 15 per cent of the total amount put in storage each season; fourth, not to exceed 10 per cent of the entire egg yield is put in storage, all told, each season; fifth, the packers, tho largely capitalized and having wide credit, deal chiefly in other meats—beef, pork and mutton—and their capital and facilities are more attractively employed in that direction."

At this point Mr. Priebe was asked for a statement of his general views of the benefits of cold storage as affecting the annual average prices paid to producers for eggs. Said he, in substance: "Cold storage and freezing plants are modernly indispensable. They take the surplus of these perishable foods in the time of over-production when current consumption cannot absorb all that is offered, and preserve them for use in the period of scarcity. This results in decidedly higher levels of prices, invites and insures far greater production, because it furnishes a market at higher prices in the period of plenty and adds proportionately to the annual food production of the nation by preserving quality, which in turn increases consumption because of the better quality in the products, also because this method of preservation lengthens the period of consumption. If cold storage did not exist and were not used, the alternative would be practically no market for eggs in March, April, May and June—or certainly a very poor market, while in late fall and winter the demand for eggs at moderate prices would have to go unsupplied. The same would be true of poultry meat; there would be too large a supply in summer and fall when the season's crop is offered, while on the other hand but comparatively few table fowl would be left for use during the winter and following spring. To discontinue cold storage would reduce the annual period of consumption one-third to one-half, with a proportionate reduction in the amounts consumed. And back of this would be an inevitable decrease in production, because producers could not average as high prices; the period of marketing would be restricted to ice packing methods, and the products would reach the consumer in less desirable form."

Broody Hens

Keep hens away from nests and two or three days will effect a cure. We have an exhibition coop in the pen into which hens are put at the first sign of broodiness; a dry goods box will answer the purpose.

Cull

Begin culling now; some of the hens going broody will do little more laying this summer,. so better get rid of them to save the feed for the layers and growing stock. Eat, can or sell them and also the males; unless the male birds are of exceptional value better send them to the butcher. The young stuff at 1½ pounds to 2 pounds will bring you as much clear money now as when they are twice as large; grade carefully so that the crate contains chicks of about the same size and color. Save feed and give the room and extra care to the pullets; you will be surprised at their rapid development. If interested in canning chicken, write to your state agricultural college for bulletin describing method.

Mysterious Disease Again

The authorities at the Colorado Agricultural college are still puzzling over the chick disease which has been named Prairie Sod disease, because it seemingly attacks only chicks running on the native sod and not those on cultivated or old land. Now come two letters from farm women in Eastern Colorado who report that their chicks have suffered from the trouble without having the run of the prairie. These letters have been submited to the Veterinary Department at Fort Collins for consideration in working out experiments now in progress, the results of which, it is hoped, will be to find the cause of the disease and suggestion for its cure:

Have just read an article in Western Farm Life on a disease now prevalent in so many poultry yards. We have had this foot and head disease three seasons and have lost quite a number of baby chicks that have never been on the grass at all. About a month ago the trouble appeared again in our flock and I used zinc oxide ointment on the feet, legs and heads. Fourteen were afflicted and they all got well. I do not understand the disease at all. Just tried the treatment as a venture and the result was a cure. If this will help anyone, I shall be very glad.—Mrs. L. Pratt, Deer Trail, Colo.

I noticed your article in Western Farm Life for June 15th concerning the "prairie sod" disease among chicks, and noted that you had never found this trouble except where chicks have ranged on sod. So I thought I would tell you of my experience with this disease. In the first place our chicks have had no access to sod ground, practically all of their range being alfalfa ground, and all of it has been under cultivation for four or five years.

At first I noticed three or four chicks limping around, and upon examination I found their legs badly swollen and covered with scabs. On one or two the scab was also found on either side of the comb. Their eyes mattered and every morning would be stuck shut. I brought three of these first ones in the house and tried to doctor them. First I poured coal oil on their legs, but this did not help much, so I just tried standing them in a pan of warm water every morning to loosen the scabs on their feet and legs, then soaking their eyes open. It was some time before I could note any improvement, but after a while the legs began to peel and the scab came off from around the comb and even a layer came off from their eyelids. All this time there was a most violent odor surrounding the chicks. All three are living yet and are growing now. Of the three only one was bothered with toes turning up. They are still that way.

I kept these sick chicks with some others that were not diseased, but not one of the others contracted the disease. We also had some chicks which were taken from the nest and put in a large box, the open side covered with a piece of screen wire. After a few days I thought they were not eating as they should and when looking for a cause found many of them blind. These chicks were never on any kind of soil, so it seems to me "prairie sod" could not be the cause in this case. In fact, I am sure it is not in this particular instance.

We have yet another disease among our chickens, or perhaps it is the same disease in a different form. These chicks are apparently healthy but are totally blind. The difference in their blindness and the others is that their eyes are wide open. In every instance except the one of the three chickens mentioned above the chicks have died.

The chicks with this last form of blindness are among our oldest ones, being about two months old.—Mrs. Roy Carder, Keenesburg, Colo.

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Grangers who attended the annual session last January will recall the excellent report of the Committee on Good of the Order. For the benefit of those who did not hear this report, we quote the following paragraph and commend the sentiments therein expressed to every patron:

"Let the 44th assembly of the Colorado State Grange consider itself a nucleus, where shall start new and stronger desires and ambitions to become better patrons of husbandry; more determined to realize fully the objects for which we exist. To no higher goal can we point than to the realization of these objects and the teachings of our manual. In unity we stand; divided we fall. Then let every patron in this great state resolve: 'I am a unit of the great army on which our country can lean; an army whose weight in the balance will swing victory to the side of humanity, justice and democracy.'"

The committee was composed of Brothers Paul Wallick and Gad Barney.

Two great questions now pending before the national legislature—prohibition and suffrage—have long engaged the attention of the Colorado Grange, as well as the national organization. At the last annual session both questions were discussed and a strong resolution was adopted calling for wartime prohibition. From the report of Chaplain P. Rickets the following is quoted, touching these two questions:

"The Grange has never wavered in its advocacy of temperance. Let us not waver now, but bring every influence we have to bear on the doubtful states to induce them to raitfy the amendment. Is it not a great work? Should anything influence us to leave it and 'go down into the plains' before it is accomplished!

"Another great work is to see that every loyal American, regardless of sex, has the right to suffrage. We give the ballot to every foreigner after a few years' residence, if he be a man and becomes a citizen of the United States. Yet, save in a few states, we deny it to one-half of our native born citizens, who love their country better and know more about our government than any foreigner. This is unjust, and the time is near when the states will have the opportunity to amend the Federal constitution, giving all our women the right of suffrage. We have always advocated 'Votes for Women.' Now let us make our boast good by doing our part, to the end that all women may have the vote."

Honorable J. C. Gunter:

In view of the widespread dissatisfaction among the farmers and consumers of Colorado, because of the apparent disregard that is being shown by the Council of Defense of the State of Colorado, of their interests and rights, during this unusual war-time condition, we respectfully petition you to at least make known, just what your real attitude is in this matter.

The Master of the Colorado State Grange, John Morris, your appointee as the representative of the farmers, resigned, with just reason because he was a member in name only and under the program of your council could not get any action, that would adjust and equalize for the benefit of all the people, though, to right the existing conditions that are so well known to everyone and surely your council cannot plead guilty to being less informed.

Some time has elapsed since this resignation was accepted and nothing has been forthcoming to assure the people of this state that you intend to extend the square deal to all the people and not a favored few.

We very respectfully await your reply that we know just what our status will be in the great victory program that must be carried out to the letter.

We have pledged to stand unselfishly, patriotically, to the man, woman and child in this great crisis, but we have our problems, great and small and insist that we be taken into your confidence along with "Big Biz" and we will again, as always, be in the lead to carry the "Stars and Stripes" to the thickest of the fight and thru to victory.

L. R. KIRKMAN,
Chairman.
E. MARTIAL VERNER,
Master Harmony Grange.
CHAS. LITHERLAND,
Master Elbert Grange.
Signed,

Lest We Forget

"They say, who have come back from Over There, that at night the troubled earth between the lines is carpeted with pain. They say that Death rides whistling in every wind, and that the very mists are charged with awful torment. * * *

"In this renaissance of our country's valor, we, who will edge the wedge of her assault, make calm acceptance of its hazards. For us, the steel-swept trench, the stiffening cold—weariness, hardship, worse. For you, for whom we go, you millions safe at home—what for you? * * *

"We shall need food. We shall need care. We shall need clothes for our bodies and weapons for our hands. We shall need terribly and without failure supplies and equipment in a stream that is constant and never-ending. From you, who are our resource and reliance, who are the heart and hope of that humanity for which we smite and strive, must come these things.

(Signed) "CITIZEN SOLDIER No. 258, ..—th District, National Draft Army."

On a Jitney Tour of the Famous San Luis Valley

Continued from Page 12

by alkali, wheat is still an important crop.

Little headway has been made with dairying, the creameries that exist finding it hard to get all the milk they need. Lately the farmers have been thinking about cows, first because they can grow feed so cheaply and pasture is easily supplied, and, second, because of the need for manure in soil improvement.

Gilt Sells for $610.

Pigs come high these days, especially when they are sold for the benefit of the Red Cross. Recently little Sarah Platt Martin, four year old daughter of Caldwell Martin, proprietor of Edgemoor Farm, Littleton, Colo., donated to the Denver Chapter of the Amercan Red Cross, Victoria Bell, a registered Duroc Jersey gilt, sired by Champion Walrex and out of Champion, The Principal's Helen. Put up at auction the gilt brought $610, all of which went to the Red Cross fund.

Salt-Pickled Cucumbers

Water-tight kegs or crocks may be used to hold pickled cucumbers. Wash thoroly and steam the kegs or crocks. Do not use any yellow or pitch-pine containers.

Wash the cucumbers.

On the bottom of the container place a layer of dill and a handful of mixed spice.

Pack the container full of small cucumbers.

Add a top layer of dill and spice.

Pour over all enough weak brine to cover the cucumbers.

Cover with a cheesecloth and a clean board cover.

Place upon the board cover a clean stone weight sufficiently heavy to hold the cucumbers beneath the surface of the brine.

Leave in a warm room until fermentation is completed and no bubbles rise to the surface when the receptacle is tapped gently.

Skim off any scum formed during fermentation.

Store receptacle in a cool place.

Cover the top of the brine with hot paraffin to form an air-tight surface.

If the paraffin becomes broken, remove, remelt and replace.

To make weak brine: ½ pint vinegar, ¾ cup of salt, 1 gallon water. Stir until salt is entirely dissolved.

Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE. Denver, Colorado.

Alfalfa Meal for Hoppers

What is the most effective way to poison grasshoppers? I have been using the hopper dozer, but can't catch them fast enough. Have put out Paris green mixed with bran, but they like the young alfalfa best, so I don't know what to do. I have some alfalfa that I seeded this spring that they are eating up.—J. J. M., Wray, Colo.

We know of nothing to suggest that is better than Paris green for poisoning grasshoppers, but you can change the mixture and use alfalfa meal instead of bran. Try it with alfalfa meal and see if they won't go after that quicker than they will the bran mixture. The formula recommended is as follows: Mix thoroly 1 pound of Paris green into 25 pounds of alfalfa meal. Dilute 2 quarts of low grade molasses with from 3 to 5 gallons of water and add the juice and rind of 6 finely chopped lemons or oranges. Stir this syrup into the poisoned meal to make a wet mash. Scatter broadcast over infested fields, using 5 to 7 pounds to the acre, or more if the infestation is very bad. If you have success with this mixture write us so we can notify other farmers, who are complaining that the hoppers don't care for bran.

Soldiers' Homestead Rights

Can old soldier who served eight years in the regular army prove up on homestead in 18 months? He has lived on same continually since filing and has made improvements required by law.—M. B., Elbert Co., Colo.

A soldier who served not less than 90 days during either the Civil war or the Spanish-American war, or during the Philippine insurrection is entitled to credit on his homestead residence for the time he served in the army, up to a maximum of two years. That is, if his army service amounted to two years or more, he will have to live on his homestead only one year, but he will be obliged to erect a habitable dwelling and perform such an amount of cultivation as will evidence his good faith. Party claiming the benefit of military service must file with the register and receiver of the land office a certified copy of his discharge, showing when he enlisted, when he was discharged and the organization in which he served, or the affidavit of two respectable, disinterested witnesses corroborative of the allegations contained in his affidavit on these points.

Not Subject to Contest

In April, 1915, I filed homestead entry. Have had only two five months leave of absence. Have nearly all my land that can be farmed under cultivation. Am pasturing cattle on the rest of it that cannot be cultivated, and tried to live up to homestead rules. Recently the land waa surveyed and my house is about tbirty feet from my line, while my barn, garage, etc., are on my land. Mistake caused by excess acreage on adjoining forty. The man that owns the land that my house is on will aettle reasonably. Is my homestead open for contesting? Can I prove up under these conditions this fall?—J. D., Larimer Co., Colo.

The department has held that when thru mistake an entryman locates his house outside the boundaries of his claim, he is expected to remove his house to the land actually covered by his entry as soon as he discovers his mistake. However, he is not subject to contest under these conditions, but when he makes his final proof he must show that he has a habitable house on the land and may then explain the circumstances and claim credit for the residence in the house when located outside his lines.

Loans Made on Dry Lands

Will the Federal Land Banks loan money on dry land?—S. M. H., Bent Co., Colo.

Yes, the Federal Land Banks will lend money on dry land farms. No loans are made on unimproved land, or strictly grazing land. The law provides that loans must be made only to those actually farming the land. A number of successful farm loan associations have been organized in the dry land districts of eastern Colorado. You may obtain further information by addressing Mr. Ralph Voorhees, Treasurer Federal Land Bank, Wichita, Kans., or Mr. A. D. Wall, Chief Appraiser for Colorado, Federal Land Bank, Foster Building, Denver, Colo.

Absence Privilege

Seeing an article in the Service Bureau pagea about the homestead absence privilege law that was passed December 20th laat, I note that your answer atatea that this absence privilege may be exercised by anyone having made a valid aettlement on public land before that date. Now I took up a 320-acre homestead of unsurveyed public land two years ago and have since fenced same and cultivated the necesaary acreage required by law. This land is now surveyed, but has not yet been approved or filed in the local land office, so it is not open for entry. Under the circumatancea, would the local land office accept a notification from me of taking leave of absence from my homestead, so that I could get the benefit of this abacnce privilege and atill meet the requiremenra of the homestead laws?—A. W., Utah.

We do not know whether you could take advantage of the absence privilege under the circumstances and would advise you to direct your question to the register of the land office in which your homestead is located.

Irrigating Corn

When and how shall I irrigate corn?—. F., Colo.

Irrigation of corn is not materially different from the irrigation of any other rowed crop. It is taken for granted that the rows will be so planted as to get the right slope of the land to obtain a proper flow of water between the rows. The time to irrigate will depend entirely upon season and locality. Moisture enough should be in the soil to start the crop and keep it growing. If such moisture comes from rains it will not be necessary to irrigate in the early stages of growth. If rains do not supply the early moisture, it is necessary to irrigate in order to get water into the soil.

Corn does not use a heavy amount of soil water until about the time it commences to silk and shoot. So that if there is enough water in the soil to keep the crop growing with fair vigor up until this time, there is no necessity of irrigating. If, however, the soil gets dry enough so that the crop wilts in the daytime or the leaves roll in the daytime, the crop should be irrigated.

To irrigate requires, first, preparation of the land by a single shovel plow, or a furrow opener. Furrows are made in the center of the space between the rows of corn. Irrigation is accomplished by running small streams of water down the furrows until the soil has been properly wetted.

To summarize, then, in the irrigation of corn, water enough should be applied to keep it growing. The most critical time for the supply of extra water is just at the beginning of the shooting and tasseling period. Irrigation should be given at this period if it is ever given.

Until the corn gets large enough to cover the ground, irrigation should be followed by cultivation, just as quickly after irrigation as the soil may be worked.—Alvin Kezer, Colorado Agricultural College.

Oil on Carey Land

1. A minor cannot make a valid location on an oil or mineral claim in Wyoming.

2. Yes, a wife may file on either oil or mineral claims in Wyoming.

3. A person may stake out as many oil or mineral claims as he desires, but they must not be contiguous to each other.

4. Not having the Carey Land Act before me or available, I am of the opinion that an oil or mineral claim staked out and proven to be oil or mineral on such land that has not been filed on, and that such mineral claim is more valuable for mineral than agricultural purposes, that such claim would be valid.

1. Can a minor file on an oil or mineral claim in Wyoming?
2. Can a wife file?
3. How many claima can one person stake out?
4. Can a mineral or oil claim be staked on Carey Act iand that haa not been filed on?
5. Alao claims that have been filed on but no patent issued under Carey Act?
6. What are the full requirements to validate an oil claim?—S. J., Wyo.

5. If mineral or oil claims have been properly made on lands embraced in the Carey Land Act and developed to such an extent that it is fully determined that that portion of the land already filed on for agricultural purposes is more valuable for oil and minerals than agricultural, and that a patent for such mineral lands have been applied for and that no patent has been issued to the applicant for agricultural purposes, that the Land Department will not issue a patent to the agricultural applicant for the land embraced in the mineral locations.

6. Prior to a recent ruling of the Interior Department to make a legal validation on oil placer claims in Wyoming, it was necessary only to mark the four corners of a claim and drill a well or hole sufficiently deep that there were oil colors. However, since the recent decision of the Interior Department on this matter, backed up by the Department of Justice, a commercial well is the only thing which will now satisfy the Department of Justice with respect to the validation of an oil placer claim on government land anywhere in the United States.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver, Colo.

In response to appeals by Premier Lloyd George early in the spring, asking British farmers to increase their potato acreage, every county in England, Scotland and Wales shows an increase in potato planting over the 1917 area. Arrangements are already being made to turn a good part of the surplus crop into potato flour. The government factory in Edinburgh has already started work.

As Usual Old Cheyenne **OVER THE TOP** Wild, Wooly and Wonderful

Entire net proceeds of this year's Frontier Days Celebration will be donated to the Red Cross, the Y. M. C. A. and the Knights of Columbus war funds. Old Cheyenne has exceded every quota in all war loans and drives.

Cheyenne's Frontier Days

JULY 23rd to 27th, 1918

:-: :-: TWENTY-SECOND ANNUAL :-: :-:

Board of Directors: John J. McInerney, Chairman; T. Joe Cahill, Sec.; Albert Cronland, Treas.; E. N. LaFontaine, Music, Indians, Decorations; R. B. Davidsen, Arena Director

First Day, Tuesday, July 23d

Auto Races, Tuesday, July 23d

5-Mile Motorcycle Race.
5-Mile Auto Race.
10-Mile Auto Race.
10-Mile Motorcycle Race.
15-Mile Motorcycle Race.
25-Mile Auto Race.

Second Day, Wednesday, July 24th

WILO BURRO RIDING ANO RACING.
MEN'S HALF-MILE COWPONY RACE.
STAKE RACE.
INOIAN RACE.
COWGIRLS' COWPONY RACE.
MILITARY MANEUVERS by troops from Fort D. A. Russell, Wyo.
INOIAN WAR DANCE by band of full-blooded Sioux Indians in native costumea.
LAOIES' WORLO'S CHAMPIONSHIP BUCKING CONTEST.
INOIAN RELAY RACE, 1½ miles.
MEN'S HALF-MILE FREE-FOR-ALL COWHORSE NOVELTY RACE.
BULLOOGGING STEER CONTEST.
MEN'S RELAY RACE.
FANCY ANO TRICK ROPING.
RIOING BUCKING COWS, BULLS ANO STEERS. BAREBACK RIDING OF BUCKING HORSES.
INOIAN SQUAW RACE, HALF MILE. Open to all full-bloded aquaws from any tribe.
FANCY AND TRICK RIDING CONTEST for World's Championship.
OENVER POST WORLO'S CHAMPIONSHIP LADIES' RELAY RACE, 1½ miles.
MEN'S WORLO'S CHAMPIONSHIP BUCKING CONTEST. Purse $600.00 and Union Pacific $500.00 saddle.
MEN'S STEER ROPING CONTEST for world'a championahip. Purse $800.00.
WILD HORSE RACE. Purse $600.00.

Third Day, Thursday, July 25th

WILD BURRO RIOING ANO RACING.
INOIAN RACE.
MEN'S HALF-MILE COWHORSE RACE. Purse $50.00.
POTATO RACE.
ONE-HALF-MILE COWBOY RACE. Horsea to be ridden bareback.
COWGIRLS' COWPONY RACE.
MILITARY MANEUVERS by troops from Fort D. A. Russell, Wyo.
INOIAN WAR DANCE by band of full-blooded Sioux Indians in native costumea.
LADIES' WORLO'S CHAMPIONSHIP BUCKING CONTEST.
REP RACE. Riders to have complete cowboy outfit—2 aaddle horses, 1 pack horse and a round-up bed.
INDIAN RELAY RACE, 1½ milea.
BULLOOGGING STEER CONTEST.
MEN'S RELAY RACE.
FANCY ANO TRICK ROPING for World's Championship.
RIDING BUCKING COWS, BULLS ANO STEERS. BAREBACK RIOING OF BUCKING HORSES for purse.
INOIAN SQUAW RACE.
COWGIRLS' STAKE RACE.
FANCY AND TRICK RIOING CONTEST for world'a championsbip.
OENVER POST WORLD'S CHAMPIONSHIP LAOIES' RELAY RACE.
MEN'S WORLO'S CHAMPIONSHIP BUCKING CONTEST.
MEN'S STEER ROPING CONTEST for world's championship.
WILO HORSE RACE.

Fourth Day, Friday, July 26th

Wild West Street Parade—10:00 A. M.
WILO BURRO RIDING ANO RACING.
MEN'S COWPONY RACE.
NIGHTSHIRT RACE.
INOIAN CHIEF RACE. Open to all full-blooded Indians of any tribe.
ONE-HALF-MILE RACE FOR HALTER BROKE HORSES.
MILITARY MANEUVERS by troops from Fort D. A. Russell, Wyo.
INDIAN WAR OANCE by band of full-blooded Sioux Indians in native costumes.
LAOIES' WORLO'S CHAMPIONSHIP BUCKING CONTEST.
MEN'S RELAY RACE.
BULLOOGGING STEER CONTEST.
INOIAN RELAY RACE.
FANCY ANO TRICK ROPING for world's championsbip.
INDIAN SQUAW RACE. Open to all full-blooded squawa from any tribe.
FANCY AND TRICK RIOING CONTEST for world'a championship.
RIOING BUCKING COWS, BULLS ANO STEERS. BAREBACK RIOING OF BUCKING HORSES for purse.
OENVER POST WORLO'S CHAMPIONSHIP LADIES' RELAY RACE.
MEN'S WORLO'S CHAMPIONSHIP BUCKING CONTEST.
MEN'S STEER ROPING CONTEST for world's championabip.
WILD HORSE RACE.

Fifth Day, Saturday, July 27th

WILO BURRO RIOING ANO RACING.
STAKE RACE.
INOIAN RACE. Open to all full-blooded Indians of any tribe.
COWGIRLS' COWPONY RACE.
MILITARY MANEUVERS by troops from Fort D. A. Ruaaell, Wyo.
INOIAN WAR DANCE by band of full-blooded Sioux Indians in native costumea.
FINALS IN LADIES' WORLO'S CHAMPIONSHIP BUCKING CONTEST.
INDIAN RELAY RACE.
HALF-MILE FREE-FOR-ALL.
FINALS IN BULLDOGGING CONTEST.
FINALS IN MEN'S RELAY RACE.
FINALS IN WORLD'S CHAMPIONSHIP FANCY AND TRICK RIOING CONTEST.
RIOING BUCKING COWS, BULLS ANO STEERS. BAREBACK RIOING OF BUCKING HORSES.
INDIAN SQUAW RACE. Open to all full-blooded squaws from any tribe.
FINALS IN FANCY ANO TRICK ROPING for world'a championship.
FINALS OENVER POST WORLD'S CHAMPIONSHIP LAOIES' RELAY RACE.
FINALS MEN'S WORLD'S CHAMPIONSHIP BUCKING CONTEST.
FINALS MEN'S STEER ROPING CONTEST.
WILO RORSE RACE.

Champion Bucking and Roping Contest Finals on Last Day of Show

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a , four or more insertions 4c a word each insertion. No ay type or illustrations admitted.

-ACRE HOMESTEADS—BOOKLET. . Duff, Casper, Wyo.

NT TO HEAR FROM OWNER OF FARM OR uit ranch for sale. O. O. Mattson, St. Paul, n.

VERNMENT LANDS—CALIFORNIA, OREon. Booklet-stamps. Joseph Clark, Sacrato, California.

ANT TO HEAR FROM OWNER OF GOOD anch or unimproved land for sale. Mrs. W. th, Pulaski, Ia.

MESTEAD LAND RELINQUISHMENTS; ood deeded farms; water, timber, good rain. Fr. Chancer, Westcliffe, Colo.

NTED—TO HEAR FROM OWNER OF GOOD ancb for sale. State cash price, full deption. D. F. Bush, Minneapolis, Minn.

RY AND STOCK RANCH, 320 ACRES. verage $300 per month income; good mar, $4,000 cash. Jacobs Dairy, Santa Fe, M.

HAVE CASH BUYERS FOR SALABLE arms. Will deal with owners only. Give ription, location and cash price. James P. te, New Franklin, Mo.

E IMPROVED RANCH, 640 ACRES DEEDd, 800 acres leased, close in, private irriga system, abundance of water, all level, good s, $20 per acre. J. B. Nicbols, Bristol, Colo.

TENTION, LAND SEEKERS—THE FINEST razing and farming land in the state of Colo., n 20 to 50 miles from Denver. Can be bougbt $15 to $25 per acre; good terms. Write us particulars. The Parker Land & Cattle Co., ker, Colo.

ACRES OF DEEDED LAND LOCATED 3 iles from town, under old establisbed irrion ditch, not bonded, all fenced, good house, le for 15 head of horses, good well and ce t stock tank, good cement cellar, lays good good soil. Price $30 per acre. Also 160 school lease adjoining the above land at 0. J. R. Anderson, Ft. Morgan, Colo.

OICE SHEEP PROPOSITION—626½ ACRES, olid block; all high, dry, fine-laying cut-over ing lands; fertile clay loam soil; first-class cultural land when cleared; well watered; oad station 1 mile. Market value $20 per . Our price for the tract $10.50 per acre. ,400 acres of very choice land, both for agriure and grazing; splendid sbeep-raising propion; well watered by several streams. Aver distance 2 miles to railroad. Price $12.50 acre. Ve have other tracts in any size desired. te for further particulars. he E. L. C. Co., Dept. 49, Merrill, Wisc.

POULTRY

Advertisements under this head will be inserted at 5c a , four or more insertions 4c a word each insertion. No ay type or illustrations admitted.

VN AND WHITE INDIAN RUNNER DUCK ggs, $1.00 per 13, $3.00 per 50. Mrs. er, Box 21, Arvada, Colo.

Y CHICKS—BARRED ROCKS, REDS, hite and Brown Leghorns. 100, $12, pre; 40, prepaid, $4.75. Safe arrival guaran Booth Hatchery, Clinton, Mo.

PET STOCK

E-BRED SHEPHERD AND COLLIE FEales, 10 weeks, $3.50 each. Andy Mikkelson, a, Nebr.

LIVE STOCK

Advertisements under this head will be inserted at 5c a four or more insertions 4c a word each insertion. No y type or illustrations admitted.

CATTLE

SALE—20 HEAD OF SPRINGING, HIGH ade Holstein cows. Wilson Counts, Hasty,

SALE—REGISTERED POLLED DURHAMS d Shorthorn breeding cattle. Write John Sterling, Colo.

SALE—HIGH-GRADE HOLSTEIN HEIFER lves, 6 weeks old; best breeding; $30 pre Herbert Taft, Whitewater, Wis., Rt. 2.

SALE—WE HAVE 6 REGISTERED HERE d bull calves, Anxiety breeding, born st-September, 1917. The good, heavy kind, price $125.00. Also four coming ear-old bulls, same breeding, price $200.00. D. Ranch, Aroyo, Colo., on U. P. R. R.

FTY HOLSTEIN CALVES, EITHER SEX, ctically pure-breds from high producing and registered bulls, five to seven weeks 30; express prepaid to your station. Safe ry and satisfaction guaranteed. Also 50 ered cows and heifers and 100 high grade cows and two-year-old heifers. Magee Farm, Chanute, Kans.

HOGS

TYPE POLAND CHINA PIGS; REGISed Barney Bros., Haswell, Colo.

STERED BIG TYPE POLAND CHINA B. F. Nottingham, Des Moines, New Mex.

JACKS

SALE—AN EXTRA GOOD HEAVY BONED stered Jack, seven years old. Price, 00. J. O. D. Ranch, Aroya, Colo., on R. R.

TERED, BIG TYPE DUROC JERSEY for sale. Edgem or Farm, Littleton, Colo. ll Martin, Owner.

DUROC JERSEY HOGS—THE BIG BONED, large, prolific type. Young pigs by the Senior Champion boar at the last Denver Show, Orion Cberry King 15th. Did you see our grand champion barrow that sold at 50c per pound? J. O. D. Ranch, Aroya, Colo.

SEEDS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

SUDAN SEED — RECLEANED, WELL MATURED, 17½c lb. sack free. C. E. Dieffenbaugh, Talmage, Kas.

CHOICE CANE SEED, $2.50 BUSHEL; FANCY Feterita $5.50 per 100. Will ship anywhere. Sacks extra. Farmers' Union, Oronoque, Kan.

PLAINVIEW NURSERY FOR SALE—ONE OF the best paying businesses in the country. A good stock of trees and a good trade. Well equipped for growing nursery stock. Plainview Nursery, Plainview, Texas.

LUMBER

LUMBER, LATH, MILL WORK. GET OUR direct-to-consumer prices before building. Catalog, plan book free. Contractors Lumber Supply Co., 443 Lumber Exchange, Seattle, Wash.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

HAND - PAINTED OILCLOTH, DRESSER scarfs, fruit and flower designs, 75 cents. Mrs. Grace Mead, Morgan, Wyo.

THREE NEW ½-TON TRUCKS, ELECTRIC starters, lights, etc.; can be bought below cost. See them. 2014 Champa St., Denver.

FOR SALE—WELL DRILLING RIG, EQUIPPED with gas engine, 350 feet capacity, good order. For particulars address P. S. Hodgkins, 3905 Quitman St., Denver, Colo.

FORDS CAN BURN HALF COAL OIL OR cheapest gasoline, using our 1918 carburetor; 34 miles per gallon guaranteed; easy starting; great power increase; attach it yourself; big profit selling for us; 30 days trial; money back guarantee; styles to fit any automobile. Air-Friction Carburetor Co., 469 Madison Street, Dayton, Ohio.

HELP WANTED

I AM AN EXPERIENCED FARM AND STOCK manager. Thoroly experienced in all branches. Am open for a position. Address, R. S. N., care of Western Farm Life.

WANTED IMMEDIATELY—U. S. GOVERNMENT wants thousands men-women, 18 or over, for war positions; easy clerical work; $100 month; list positions open free; write immediately. Franklin Institute, Dept. S-172, Rochester, N. Y.

Lively Contest Among Cowboys for World's Championship

Three cowboys who will be contestants in the world's championship wild west contests during the Frontier Days celebration at Cheyenne, July 24, 25, 26 and 27, already this year have won rough riding first prizes at contest cowboy festivals held in other western towns. They are Eddie McCarty, who won the bucking contest at Missoula, Montana, recently; Sam Brownell, who won the rough riding contest at Belle Fourche, South Dakota, and Frank Carter, who took first money in the broncho busting at Ogalalla, Nebraska. Of these three Brownell is the present holder of the Frontier Days championship, Carter is an ex-champion and McCarty has been runner-up in several championship contests held here in the past. Several men who have entered for the rough riding here week after next took minor prizes in the Belle Fourche, Ogallalla and Missoula contests, and others who will ride here have won in minor contests held at western points this year.

Brownell, in winning at Belle Fourche, rode to a finish Tipperary, the worst bucking horse in the Black Hills, an animal so vicious that Belle Fourche sportsmen made up a purse of $1,000 to bet that he could not be ridden and "scratched" to a finish. Brownell scratched him at every jump.

Tipperary and Tip Top, another bad South Dakota horse, now are en route to Cheyenne, to be used there in the Frontier Days championship contest.

THE PLATTE RIVER CATTLE COMPANY

Denver, Colorado

PURE-BRED

Hereford

BULLS

We Have on Hand and For Sale

250 Head Yearling Bulls

100 Head Two-year-old Bulls

Good Bone, Colors and Markings
Fine Condition for Service

Write or phone us regarding these Bulls. It will be worth your while.

715 E. & C. Bldg. Phone Main 3989

406 New Live Stock Exchange Bldg. Phone Champa 4793

HEREFORDS FOR SALE

Only one young Hereford bull left for sale, Heir's Successor, No. 614072, dropped September 30, 1916. Ready for service. Sired by Heir's Anxiety, No. 359788, the sire of Morris, Grand Champion steer at the Western Stock Show, 1918, who sold for over $800; dam, Winifred, No. 228963, a daughter of Keep On. This is a strong, growthy young bull, not a show bull in all respects, but will make a good herd sire for a small purebred herd, or will fit in well on the range. Price, $400.

We also offer a nine-year-old cow, Gipsy, No. 316045, with a good September bull calf at foot by Heir's Anxiety. Price, $350, if taken at once. Rebred to Heir's Anxiety. Calf alone will be worth the money by fall.

ANIMAL HUSBANDRY DEPARTMENT

Colorado Agricultural College FORT COLLINS, COLO.

High Class Jerseys and Durocs

"THE WESTERN HOME OF THE MAJESTY'S"

Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the otber day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, better get a Majesty bull calf while tbe getting is good. I have tbem. Also a few fall boars, splendid good ones, at rigbt prices. I will have something still more interesting to tell you very soon about Majesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

ALFALFA SEED FOR SPRING SOWING. From locality where it grows best and most abundantly. Our seed won tbe Gold Medal at the St. Louis World's Fair, in competition with the world. We also handle White and Yellow Sweet Clover. Write us for prices and free samples. Address MoBETH SEED HOUSE, 320 Main, Garden City, Kan.

$25 HOLSTEINS $25

Five weeks old 15-16 pure, mostly wbite, $25 crated.
Two montbs old, $40.
Registered Bulls, two montbs old, best quality, $70.
Two-year-old springers, $125.
Cows crated, $150. Car lots write us.
Buy the best, it pays in the end.

Dr. J. A. Roberts Stock Farms
Oconomowoc, Wis.

FOR SALE
LARGE TYPE POLAND CHINA GILTS

Tbese gilts are sired by or bred to SMOOTH GIANT by SMOOTH BIG BONE.

COLUMBUS BIG GUN, by COLUMBUS DEFENDER and McLaughlin's BIG CHIEF, by MOUWS BIG CHIEF.

C. W. McLaughlin
Olathe, Colo.

NATIONAL WESTERN
First Annual

Ram Sale

DENVER

Sept. 3-4-5-6, 1918

Imported and Domestic

Stud Rams Range Rams
REGISTERED EWES

An Opportunity to Secure Breeding Sheep of Quality

Rambouillets Hampshires
Shropshires Cotswolds
Corriedales Lincolns
Oxfords Karakuls

Under the Direction and Supervision of
THE WESTERN STOCK SHOW ASSOCIATION

For Particulars Address the Secretary
FRED P. JOHNSON
Union Stock Yards, Denver, Colorado

DRAFT HORSES AND BEEF CATTLE

I can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigb at maturity and in fat condition 1600 to 2350 pounds. Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

Goodwin Jersey Farm

Has for sale two bulls 7 and 9 months old. Excellent type and breeding. Priced very reasonable. Write for photo and breeding.

W. W. Goodwin, R. F. D. No. 2,
Canon City, Colo.

HOLSTEIN CALVES

Choice, high-grade, beautifully marked heifers or bulls, 5 weeks old, $20.00 crated f. o. b. cars. Write
W. C. KENYON & SONS, Box 39, Elgin, Ill.

"America is God's last chance to save the world."—Emerson.

Food wasted is food lost, and no money can replace it.

Buy War Savings Stamps.

Have You Met This Kaiserite?

NAIL LIES LIKE THESE!

THAT Red Cross supplies are being sold to shopkeepers by dishonest Red Cross officials.

THAT the Masonic orders have protested against allowing the Knights of Columbus to build recreation huts for soldiers.

THAT interned German prisoners are being fed five meals a day.

THAT this is "a rich man's war" or "a business man's war."

THAT farmers are profiteering.

THAT nine American warships were sunk in a disastrous engagement in the North Sea.

YOU FIND HIM in hotel lobbies, smoking compartments, clubs, offices and even in homes. He thinks it's clever to repeat "inside facts" about the war. He is a scandal-monger of the most dangerous type.

He repeats all the rumors, criticisms and lies he hears about our country's part in the war. He gives you names, places, dates. He is very plausible.

But if you pin him down, if you ask him what he really ***knows*** at first-hand, he becomes vague, non-committal, slippery. He tries to make you think that the Government can fool you, if you are willing to let it—but it can't fool him. No, siree! He's too smart.

People like that are hurting your country every day. They are playing the Kaiser's game. They are fighting against this country. They are making it harder to win the war.

Through their vanity or curiosity or ***treason*** they are helping German propagandists to sow the seeds of discontent.

For every lie that has been traced originated with a German spy. Don't forget that.

There was the one about the President's Secretary. It was said, and said again, and spread broadcast that Mr. Tumulty was convicted of treason and shot at Fort Leavenworth. That lie was easily scotched by a public statement from Mr. Tumulty himself.

But other lies are more insidious—harder to down. In another paragraph some of them are told. But they are only a few of many.

They are taken from a publication, issued by the Committee on Public Information, called:

"THE KAISERITE IN AMERICA"

101 GERMAN LIES

This little book describes the methods of Germans here and quotes 101 lies that have been nailed by a newspaper which took the trouble to run them down. It will be sent to you upon request.

Get the Facts from Washington!

Get in the fight to stamp out this malicious slander. As you travel about the country or even in your social life at home, run down these lies. Call the bluff of any one who says he has "inside information." Tell him that it's his patriotic duty to help you find the source of what he's saying.

If you find a disloyal person in your search, give his name to the Department of Justice in Washington and tell them where to find him. It is your plain and solemn duty to fight the enemy at home by stamping out these lies. Where shall we send your copy of this book? It's free!

COMMITTEE ON PUBLIC INFORMATION

8 JACKSON PLACE, WASHINGTON, D. C.

CONTRIBUTED THROUGH DIVISION OF ADVERTISING

U. S. GOV'T COMM. ON PUBLIC INFORMATION

THIS SPACE CONTRIBUTED FOR THE WINNING OF THE WAR BY

THE PUBLISHERS OF WESTERN FARM LIFE

DENVER, COLORADO

Through the Division of Advertising, U. S. Government Committee on Public Information

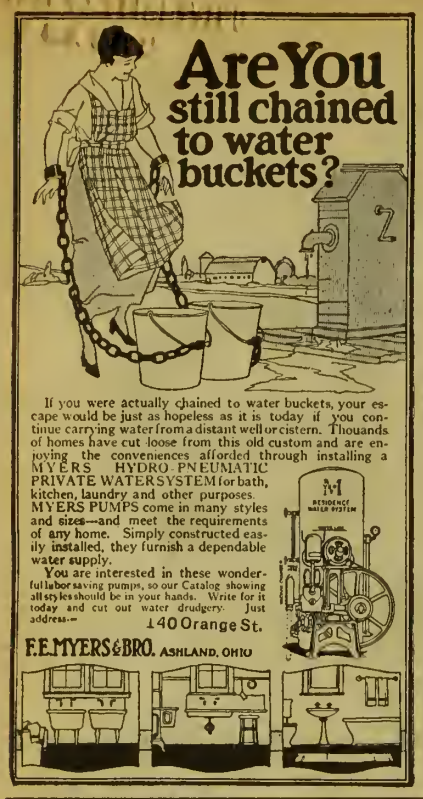
WESTERN Farm Life

ol. XX Denver, Colorado, August 1, 1918 Semi-Monthly

The Elkhead School in Routt County, Colorado

(See Article, page 3.)

Upper Left: The stone school house; at right, boys' class in shoe cobbling.
Lower Left: Girls' Camp Fire Club on skis; at right, the teachers on their way to school.



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A Communication on Tractors

Dear Editor:

What do you know about farming? Have you ever been there, right there on the farm and doing the work? Well, if you haven't—maybe you have been there and been a "kid-gloved boss." If either—and you had at the time a fair-sized bump of obervation—of the 25, 50 or 100 farmers or hired hands that came under your observation, what per cent kept their tools in good working order, tight and in condition to do good work, and did good work? I would think 1 in 100—barely possible 5 per cent, for I never kept actual tab.

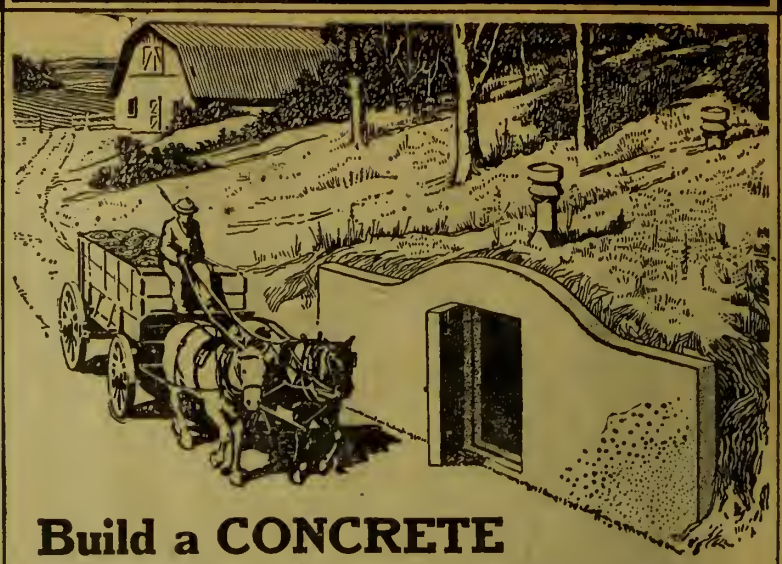
You posing to be a farmer's friend, eternally on the lookout for some way to assist and benefit the farmer, not you only, but hundreds of other farm papers, carrying the "farmers' best interest first and all the time" banner, all advise him to buy a tractor to do the work every day; balks not at heat or cold. Yet you, knowing how few farmers have plow, harrow or wagon in fairly usable order; and how few do their work well, and raise a good fair crop, because the tools are not in fair working order—yet all of you, hullabaloo, "Go quick, buy a tractor!" Don't you know that the man who has a plow loose, wobbly, and if in use, flopping up and down, in and out of the ground, can't and won't keep a tractor in better working condition than he does the plow? That the farmer whose harrow is shackley, tied up with bits of wire, a fair proportion of the teeth lost along the road and in the field, the balance worn off on one side, smooth and rounding, so they wouldn't crack a clod of earth even if the harrow be weighted with all his team can draw at a snail pace thru the half-plowed field. The farmer who is so careless that he cannot drive his 12-foot harrow thru a 15-foot gate without hitting one gate post—frequently both sides—yet he follows your advice and buys a tractor, bothers the life out of an expert for a year and then generally hauls the no-good thing into a fence corner or swaps it to another fellow who does no better. Don't advise such farmers to hire an engineer; the so-called traction engineers are worse than the farmer owner—in every way the farmer's equal in carelessness and minus the ownership interest, lay or throw the tools where chance happens, frequently on a gear wheel, let it start up and a cold chisel, punch or wrench gets into the cogs, and a gear wheel is broken and the engine laid away until a new gear can be gotten from the factory.

The engineers are alike, whatever wages they demand, and the percentage of those who can and will take care of an engine is no larger than the percentage of farmers whose tools are in good condition.

There, publish that if you will. It don't do any good; the whole lot of farmers know their tools are not as they ought to be, but have not time to tighten the bolts, replace lost nuts and bolts or fix as it should be fixed anything they have to use. Tie it up with a piece of wire and "we'll fix it after awhile."—A. A. Weston, Julesburg, Colo.

Zone System of Marketing

The effectiveness of the zone system of live stock loadings, inaugurated December 10, 1917, in bringing about a more equal distribution of daily receipts of livestock at the Chicago market is indicated by the percentage of each week's receipts of cattle, hogs and sheep, and total cars at this market each day of the week from March 11 to June 15, inclusive. Instead of 72.2 per cent of the cattle marketed at Chicago during this fourteen-week period arriving Mondays and Wednesdays, as was the case during the corresponding period of 1917, receipts on these two days were but 41.3 per cent of the weekly totals. Cattle receipts on Tuesday and Thursday were only 22 per cent of the weekly receipts a year ago, while in the period under review they constituted 46.2 per cent of the weekly receipts. Friday, and even Saturday also, have become more than merely nominal market days for cattle as a result of the workings of the zone system, 12.5 per cent of the weekly cattle receipts during the period arriving on these "off days" as compared with 5.8 per cent during the corresponding period in 1917. The zone system also has resulted in a more nearly equitable distribution of sheep and hog receipts. The total carlot movement well indicates the effectiveness of the zone plan in equalizing the livestock movement at Chicago.



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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

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Largest Circulation of Any Farm Magazine in the West

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A Model Community School in the Mountains

WHAT VISION AND PLUCK HAS ACCOMPLISHED AT ELKHEAD

Four pictures on the cover of this issue refer to the story of a consolidated school in a remote mountain district of northwestern Colorado. It is a remarkable story of community enterprise; of a community alive to the needs of its youth and unafraid of taxing themselves to pay for the best education that "money can buy." It is the Elkhead school in district No. 11, Routt county, a region of heavy winter snows, of few inhabitants per mile, where consolidation has resulted in a splendid stone school building, a teacherage, the establishment of postoffice, store and mail route, the building of cottages on the school grounds by parents who wish to be near their children during the school term, and, best of all, the development of a real community center, where things are taught that are of use in life and where the social needs of children and adults are sanely provided for. The accompanying description of the work of this school is taken from a brochure prepared by Ferrington R. Carpenter, now in the nation's service "Somewhere in France. It was his broad vision that was mainly responsible for this consolidation in the face of difficulties. The story, with its illustrations, is being prepared for addition to the lecture work of Prof. C. G. Sargent, head of the Department of Rural Education at the Agricultural college, who is responsible for the major share of the progress made in centralization and consolidation of Colorado's rural schools.

THE town of Hayden was the first county seat of Routt county and was a small trading post and postoffice from 1877. District No. 11 was a part of the Hayden school district and had no schools of its own until 1911, at which time, upon petition of its inhabitants, the county superintendent of schools set the same aside as a separate district, comprising a little more than six townships of about 220 square miles. At that time there were 20 children of school age in the district and the principal reason for the establishment of the district was to provide them with a school house nearer than the 15 miles average distance they would have to go to get to the Hayden school.

There was at the time some patented but undeveloped coal land in the district and a few patented ranches, but most of the country was public domain, forest reserve with about 15 homesteaders, 7 patented ranches and about 15 homestead claims; the balance of the district was public domain and forest reserve. The tax income of the district was mainly derived from the coal lands and from cattle run upon the open range and forest reserve. In the spring of 1911 a one-room log school house was erected on the Adair ranch and a six months' summer term of school was maintained, with one teacher and 10 pupils. In 1912 it was found that a number of new families had settled on lands on the Dry Fork of Elkhead, and another one-room frame school building was built in that section. Summer terms of school were maintained in each of these two buildings, with an average attendance of 12 pupils in the first and 15 pupils in the second building, during 1912, 1913, 1914, 1915.

In the spring of 1915 there were 8 pupils to graduate from the eighth grades of the two schools, and the problem arose as to high school work. Heretofore the district had paid the tuition for the pupils of the district desiring to attend the Hayden high school. The matter of tuition now would come to about $200 to $300 per year, besides the matter of sending boys and girls of that age away from home to board, or of moving the whole family down to town for the winter, which was a serious handicap to several ranchmen, and necessitated maintaining two establishments, one in town and one at the ranch.

At the regular May school meeting of the electors of the district, it was voted to issue $5,000 worth of bonds and to build a consolidated school building to replace the two present buildings, and to include high school work. Also it was decided to maintain a summer school in the western end of the district for the smaller children there who would be unable to attend the big school. The result was the building as shown on the cover of this issue.

The building is made of stone from a nearby ledge of rock and is 50 by 30 feet with a front hall and basement. The main floor is divided into two rooms by a folding partition, which can be opened, making one auditorium when occasion arises. The two ends and south side are taken up with large windows, letting ample light in over the backs and shoulders of the scholars. The north side is solid blackboard. The hallway is divided off for a telephone booth and coat room. The basement has a cement floor and is divided into a domestic science room with a kitchen range, sink, tables, benches and equipment, and a furnace room, supply closet, shoe cobbling room and manual training room. The whole building is heated with hot air and lighted by a gasoline lighting system.

Uses Served by Building

During the summer of 1916 a Sunday school was organized at the building, and besides the regular Sunday afternoon Sunday school work several regular services were held, the minister from Hayden presiding, and one all-day service for the community with a noon dinner was held. A large number of social dances have been held at the school. These are gotten up by local committees and in two instances by the Camp Fire Girls' organization of the school. The only charge is for the gasoline used in lighting and $1.50 for the janitor work in cleaning up. The dance committee collects enough to pay for their own music and turns in a part on the piano payments. On Hallowe'en, Christmas and closing of school a regular school program has been given, followed by a dance.

The building is the regular registration and polling place for the voting precinct in which it is situated. It is also open to use for meetings of local associations as desired.

The first school year opened up August 1, 1916, with 8 pupils in the grades 5 to 9. Upper room taught by Miss Rosamond Underwood, and 17 pupils in the grades 1 to 5. Lower room taught by Miss Dorothy Woodruff.

In the lower room there were 17 pupils, 14 of whom were boys ranging from 7 to 14 years of age. Classification was difficult because the children had previously had such irregular schooling. All the elementary subjects were taught, complying with the state syllabus.

Both rooms combined for the simple morning exercises, which consisted of Bible stories and singing. During the noon hour the children often enjoyed hot meals prepared by the older girls as part of their domestic science training. In good weather they played on the playgrounds, and the basketball field was very popular. In winter all were enthusiastic on skis, and the boys and girls vied with each other in racing and jumping. On stormy days the well-lighted basement was turned into a combination gymnasium and playroom, while the school room was often the scene of merry old square dances.

Once a week current events and folk dances were given, also informal exercises and little plays. The pupils took unusual pride in their school building and all worked over the raising of flowers for indoor blooming. The holidays were celebrated with little plays and exercises, usually in the evening, followed by a dance.

The older boys were taught carpentry and cobbling, and each class was equipped by the school with the necessary apparatus. The younger children did good work in clay modeling, coloring, raffia work and simple sewing. They played games when their work was finished and the reading and telling of stories completed the day.

In the upper room the total number of pupils on register during 1916-1917 was 11. The work covered by them belonged to grades 6 to 9 inclusive. As far as possible the courses planned were along the lines of those of the Colorado schools, as set forth in the curriculum, especially with reference to the eighth grade.

The high school class, the first in the district, numbered 5 during the first term and 6 during the second. The sixth and eighth grades each had two pupils, the seventh one. Two of these 11 pupils did not enter the second term. One other came only at irregular intervals during the first three months, and moved away from the district during the winter.

The work of the ninth grade was divided into four recitations daily—these extending over 30-minute periods—the studies being algebra, Latin, ancient history and English. In addition to their regular work, a special course in the "Outlook" was followed, and regular study and preparation on the part of the pupils required. In the history classes, while text books were the basis for the work, as much reference work as the library permitted was encouraged, and an effort made to link and compare the events of other days with those of our own.

Grades 6-8: The recitation periods for these grades were limited to 15 to 20 minutes, and it was found necessary to group together wherever possible. The studies included arithmetic, geography, American history, spelling, writing, reading, civil government and physiology. A number of the ninth grade took the work in spelling, while two also reviewed eighth grade arithmetic. All pupils in the upper room shared in the current events class.

A carpentry class, and one in cobbling were started for the older boys, during the second term. These proved to be very beneficial as well as interesting to the boys. During the lessons the cobbling room and a resting room for the women of the community at time of dances, etc., were built, and a good many pairs of shoes were repaired.

Some work in domestic science was held for the girls, the greater part of it consisting in preparing and serving hot dishes for the school at different times. Such dishes as cocoa, soups, biscuits, potatoes and other vegetables made an acceptable addition to the cold box lunches on stormy days.

Janitor work was done by three of the older boys during the year. The building proved to be far too large for one boy to successfully handle, so the monitor system was created partly to meet that situation. Keeping the building clean, furnace in order, hauling water and emptying used water took the time of helpers as well as the janitor.

Library and magazines: A fiction library was started, and a large number of old books, some new ones, obtained as well as new text books. A reading table was maintained, with magazines, gifts to the school or loaned by friends in the community. All the books were listed in a card catalogue, the work being done by two of the older girls. A state library was also loaned to the school for six months.

Camp Fire Girls: An organization of the Camp Fire Girls of America was founded at Elkhead in December. Eight girls became members and entered into the spirit of the Camp Fire with enthusiasm and genuine zeal. Splendid work was done by the girls in their home work, to win the honors necessary for progress in the organization. On several occasions the Camp Fire as a society helped make the community parties the success they were. A candy sale and a supper served by them helped them pay for their costumes, dues, etc.

Present Financial Status

The present status of district No. 11 in a financial way is as follows: The 1916 valuation was $609,316. There was a 4-mill levy for school purposes on this amount besides a half mill for interest on the outstanding bond issue of $5,000. The expense of running the consolidated school is about $200 per month, the teachers being paid $75 per month apiece and the janitor $15 per month and coal, and supplies average about $35 per month. In this connection it might be well to state that the district furnishes all books, paper supplies and materials of every kind, except that in the domestic science work the pupils contribute supplies, and in the sewing and cobbling work pay for material used by them. The increased price of paper has introduced the use of slates in all but the high school work.

In addition to the 9 months of school in the consolidated school, the district has maintained a 6 months' summer school in the western end of the dis-

(Turn to page 15)

Visiting at the Home of Majesty's Feather Lad

HOW McCLENAHAN HANDLES HIS FINE HERD OF JERSEYS

ALVIN T. STEINEL

THIS will introduce to you Majesty's Feather Lad (162731), a beautiful specimen of the Jersey breeder's art, and a coming herd sire who has just made his bow to Colorado and has been pronounced by good judges to be the finest Majesty bred bull in the United States. This acquisition to the purebred Jersey herds of the mountain states belongs to A. M. McClenahan, the Greeley breeder, whose work with the Majesty strain has won distinction for him and been of great value to the breed in the west.

Majesty's Feather Lad arrived in the state about two months ago, having been purchased from the Erdenheim farm at Detroit, Mich., being out of the herd of Edward S. George, owner of Royal Majesty. He was sired by Majesty's Gamboge Lad, by Ida's Majesty, by Royal Majesty, and his dam is Majesty's Feather Lass, an own daughter of Royal Majesty, the dam having a record of 10,596 pounds of milk and 712 pounds and 13 ounces of butter. Besides this wonderful record, she has also been a great show cow. Feather Lad's breeding is in the purple all the way back and he promises to uphold the traditions of his ancestry, if present appearances and a royal pedigree count for anything.

It was the pleasure of the writer to make a short visit recently to the McClenahan farm near Greeley. Intensive dairy farming and breeding is carried on. The farm is small — only forty acres — but every acre is held to maximum production by the use of irrigation water. The location is in the famous delta section, near the convergence of the Poudre and Platte rivers. The alluvial delta soil is extremely fertile and farm land in that section is selling at $400 to $500 per acre. Naturally, on high priced lands, methods of farming must be efficient, in order to bring the returns which a large investment justifies. It was interesting to see what could be done on a small farm in the way of feed production for a herd of purebred dairy cattle.

The farm is divided into four fields, and the chief crops are grass, corn and alfalfa. There is also some wheat. The farm buildings and pasture occupy the first corner of ten acres. Mr. McClenahan says pasture is absolutely essential. Some may think it foolish to let seven or eight acres of such high priced irrigated land stand in grass year after year, but those holding such an opinion have not studied high class dairy farming methods. The pasture is composed of mixed grasses, Mr. McClenahan recommending a mixture of orchard grass, brome grass, alsike clover and bluegrass as best suited to his needs. Frequent irrigation is given the grass and it is given an especially good soaking late in fall, just before irrigation water is turned off for the winter. All of last summer 25 to 30 head of Jerseys grazed on this pasture, but the herd was divided, a part being let on in the morning and the rest in the afternoon. Regulation of the grazing periods keeps the pasture in shape and the cattle as well, and cuts down the feed bill tremendously during the grazing season.

Another hint in the feeding line that was interesting is the cutting up of the alfalfa. No hay is fed whole. The first crop of alfalfa this season was hauled from the shock to the barn and there put thru an ensilage cutter and blown into the mow, which contained about forty tons of cut hay when the writer saw it in July. By cutting the alfalfa the cows eat it all; there is no waste. This plan is followed by many of the lamb feeders around Greeley and Fort Collins, who have found this the most economical way of feeding their alfalfa.

In 1917 the season's alfalfa yield, for three cuttings, was five tons to the acre, and this year promises to be as good. There are fifteen acres in alfalfa.

One silo is in use and another is to be built later. The silo, which is of hollow tile construction, has a capacity of a little less than 100 tons and it is usually filled from seven or eight acres of corn. This year there are ten acres in corn, and it is planned to shock the surplus and put it into the silo next spring, when the first silo full has been fed out. By adding water to the dry corn a good quality of en silage is secured. Three feet of en silage still remained in the silo wher I saw it July 10th.

Mr. McClenahan uses, besides the alfalfa and ensilage, bran and choppe or rolled barley, half and half. He feeds less than 20 pounds of ensilag per day in this combination and find the Jersey a very economical feeder He gets big production because of th efficiency of the Jersey to convert goo food, in moderate quantities, into ric milk. While he appreciates the fac that the Jersey is a thing of beaut and as docile and gentle as a lamb, h is a business farmer and his selectio of this beed to work with, some year ago, was not due to its aesthetic qual ities, but to the fact of economica production under western conditions He has never regretted his choic either of the breed or the strain, es pecially since it was a Majesty co that first hit the $10,000 mark at sale.

Mr. McClenahan has had hard luc with two previous herd sires, one d ing of pneumonia and the second o an injury received a short time befor the last National Western Stock show No such misfortune is anticipated fo the newcomer, whom we hope to se at all the leading Western show from now on.

Jersey followers will be intereste to hear that Joll Oxford Buttermil (313779), the gran champion cow a the 1918 Wester National, is on te this summer fo register of meri She is a 4-year-ol and a large anim of the breed Among other ou standing matron in the herd w might mention Fo farshire's Jubile (241138), the gran champion at De ver in 1916, a re ister of merit co with a record of 4 pounds of butter i 11 months; Dainty

(Turn to page 14)

A Few of the Queens of Majesty Strain in the Barnyard on the McClenahan Farm

What Increased Beet Acreage Means to Colorado

NATION SHOULD BE SELF-SUSTAINING IN SUGAR PRODUCTION

W. D. HOOVER

IN 1907 the people of the United states consumed 3,300,000 tons of sugar.

In 1917 the people of the United States consumed 4,500,000 tons of sugar.

In 1907 the United States produced 463,228 tons of refined beet sugar.

In 1917 the United States produced 765,207 tons of refined beet sugar

It will be noticed that in ten years' time the total increased consumption of sugar in the United States per annum has reached the sum of 1,200,000 tons, or an annual increase for each of these ten years of 120,000 tons; while our total production of beet sugar is, to date, but 765,207 tons per annum, or an annual average increase of 30,000 tons per annum for the same period, or one-fourth of our annual increased consumption.

The great question for the American, and especially the Western American, to ponder over is: Why have we not increased the production of sugar in the United States at least equal to our natural increased consumption, instead of having this demand met by the increased production from foreign countries, notably that of Cuba.

To have supplied our national increased consumption of sugar with beet sugar would have required approximately 85,000 acres additional each year planted to sugar beets, and to have sustained this increased acreage would have meant an increased well-balanced farming thruout the Rocky Mountains of an area of approximately 340,000 acres.

If the United States increases its consumption of sugar at the same rate during the next twenty years that it has during the past twenty years, we will have to meet at that time an increased annual consumption of 2,600,000 tons of sugar. To meet this increase would require 1,730,000 acres of land constantly in beets each year, or 6,920,000 acres of well-balanced farming to sustain this annual beet acreage.

The question for the American to determine is whether this indispensable agricultural crop, that of the sugar beet, and the accompanying advantages of the enormous amount of cattle fed, together with the enhanced production per acre of other agricultural products, shall be produced in the United States by the free American farmer, or whether the almost incalculable direct and general economic benefits shall go to a few capitalists and the great mass of the lowest form of labor beyond the borders of this great republic.

Shall history repeat itself, or will the lesson which the present war teaches impress the American farmer with the importance of assisting to put this nation upon a self-sustaining sugar basis?

The acreage referred to as being necessary to meet our annual increased consumption of sugar at the end of twenty years will, at the same time, furnish livestock feed for approximately 2,595,000 head of cattle.

While we would be accomplishing the two foregoing very important items, namely sugar and cattle feed, we at the same time would be building up in the Western irrigated country an increased acreage of well-balanced rotation farming which, without the beet root, would be impossible to do.

We in the West will not only be accomplishing the three foregoing items of national importance, but will be increasing the Rocky Mountain region by several millions of both a producing and consuming population.

In addition to the four foregoing items, we will be building up a manufacturing industry in a sparsely settled country, which cannot be done by any other means, thru the concentration of the raw materials locally produced, into a commodity shipable into the more thickly populated sections of our country.

Mark you, this is only a brief stat ment of what is within the possibi ities of the irrigated West, by sim ply meeting the estimated advantag of our increased consumption of suga to say nothing of the enormous su of 4,500,000 tons, which was our co sumption in 1917, and of this larg amount we produced but 760,000 ton from the sugar beet.

While we are reflecting upon th possibilities of the future, it might b a wholesome thing to reflect upon ou mistakes of the past.

In 1903 the United States produce about 220,000 tons of beet sugar.

In 1917 we produced about 760,00 tons of beet sugar.

IN 1903 CUBA PRODUCED NO MUCH IN EXCESS OF 700,000 TON OF CANE SUGAR, AND IN 191 PRODUCED OVER 3,000,000 TON OF CANE SUGAR.

When it is realized that this eno mously increased production of suga in Cuba was made possible almos wholly by the increased consumptio by the people within the United States it would seem that the picture o England, allowing herself to becom wholly dependent upon Germany fo her sugar, would inspire the America citizen and the American farmer t see to it that, in the future, Americ shall produce all the sugar from beet that, at least, our increased consump tion shall demand.

Woman Farmer Growing Wheat for Her Country

OWNER OF BROADVIEW RANCH BELIEVES IN SUMMER FALLOWING

SUMMER fallowing for winter wheat is getting a trial on Broadview Ranch, in Arapahoe county, our miles east of Littleton, Colo., by progressive woman farmer, Claire Musted Oneill, who believes in the principles of moisture conservation, as taught by E. R. Parsons, and shows her faith by her works. The present is Mrs. Oneill's third season on a section of dry farming land, which is being developed from sod into a paying farm with wheat as the principal cash crop and a herd of dairy cows to convert ensilage, prairie pasture and rough feeds into milk and cream. In response to the demand of the nation for bread, Mrs. Oneill's chief business is raising the staple bread cereal.

Just before wheat cutting, early in July, the prospects were that the best of the three wheat fields, an 85-acre tract, would run nearly 30 bushels to the acre, two other fields of 25 acres each indicating a smaller, tho still satisfactory, yield.

While the wheat fields were interesting, the visitor found something more important, and that was the 200-acre fallow ground, on which seeding of the 1919 crop is to be done late in August. This ground had been plowed 8 inches deep, as time permitted, between the latter part of March and about the 20th of June, and then disked and harrowed and double-disked, this going on without interruption, to keep down weeds and hold every bit of moisture. Tests made in this ground by Mrs. Oneill showed it to be well supplied with moisture, to give the wheat a good start and insure a strong root growth before winter, thus preventing blowing out or drying out.

She spoke of having learned two important things in her experience with the present year's crop. Good as it is, it is not what it should have been. The heavy heads and good stand on the 85 acres was attributed to the fertilizing value of the pinto bean crop which was on that ground in 1917, so the question naturally was asked:

"Why not figure on wheat after beans in your rotation?"

The answer bears out what some other dry-land farmers have experienced. It is difficult to get the bean crop off the ground in time for putting in fall wheat, because the fall wheat should be sown early. Beans do not ripen till September, and it is often October 1st before the harvest can be completed. While the soil may be in fine tilth for wheat after a well-cultivated bean crop, the late sowing and

Scrub Cows on Broadview Ranch Make Milk From Prairie Grass

the gambling on winter moisture offsets any gain that might come from the fertilizing value of beans. That is the way Mrs. Oneill looks at it, and that is why she believes the summer fallow will serve better than wheat following beans, as moisture is the deciding factor.

To bear out this argument, she shows the 85-acre field of wheat in which there are "blow" spots, where the stand is very thin. Because of late sowing, the shallow-rooted wheat was whipped out by the winter winds. On summer fallow, with plenty of stored moisture and early sowing, the wheat will get its root development to go thru any kind of a winter and come out the next season in perfect stand, the only remaining necessity to make the crop being spring storms, which practically never fail.

Mrs. Oneill owns a steam tractor. In addition to this machine, which she operated a part of the time in plowing, she hired some of the plowing done with a gasoline tractor and some was done with a three-horse outfit. Comparing the tractor with horses, her comment was:

"The tractors were all right when they were in working order, but our trouble was to get repair parts. Delays incident to breakdowns caused a lot of time out for the machines of both types. As a matter of fact, I must say that the man with the three horses did most of the plowing. I am not alone in this experience with tractors; other farmers tell me they have had the same trouble. In the first place, we have great difficulty in getting help of any kind, especially the trained help absolutely essential in tractor operation. It takes a mechanic who understands the machine to properly operate a tractor and keep it going. The next difficulty has been to get repair parts. You can see what happens to a farmer when he has a breakdown in the middle of a plowing job and the agency has to send back east to the factory for repairs, which happens more than once."

Even a delay of two days in waiting for parts from near-by sometimes represents the difference between profit and loss on a crop.

Mrs. Oneill believes in farming with machinery, but realizes that it is foolish to dispense with horses altogether and rely exclusively on the glowing accounts of the tractor salesmen as to what the machines will do. Prospective buyers are apt to forget, in the enthusiasm of watching a tractor demonstration, that even the best types will balk occasionally and that an inexperienced farmer cannot accomplish the results got by a trained mechanic. Her observations are those of many others. There is urgent need for tractor schools where farmers may learn all about the machines before they spend their money for costly experience. Tractors have come to stay, but every time a machine fails in the hands of an inexperienced man it sets back the day of power farming.

Returning to the wheat field on bean ground, we might ask what preparation was possible after the beans were taken off? The ground was double-disked, harrowed and dragged and the wheat was sown about the middle of October on ground that had no reserve moisture. We had a normal fall, and that means a dry fall. Many wheat growers will not admit that our falls are normally dry; at least they seem to go on the theory that we will get plenty of moisture to start the wheat. As a matter of record, the fall and winter months are the months of lightest rainfall in the high plains country east of the Rockies, and the man who sows winter grain on dry ground is taking a long chance. Therefore it pays to summer-fallow. The methods have been outlined time and again by Mr. Parsons in these columns, the latest article on that subject appearing in the issue of July 15th.

Besides the wheat (a total of 215 acres), Mrs. Oneill had in good growing condition 25 acres of oats and 25 acres of corn, the latter intended for a pit silo which is to be built before corn-cutting time, if possible. She has a herd of pick-up range dairy stock, mostly of Shorthorn strain. Fifteen were yielding milk made exclusively from the grass on the ranch during the summer, and there were a number of sturdy calves, some of which will go to the butcher this fall. Corn silage will be the mainstay of the herd thru the winter, and as long as the ground remains uncovered there will be grass.

A creek meanders thru the lower portion of the ranch, and while it is dry in midsummer, it is never far to water in the sandbed, which carries a good underflow. In time the bottom land will be put into alfalfa, as hay is a necessity. It is planned to reserve about 200 acres as permanent pasture. This will allow over 400 acres for crops, which is ample for any woman farmer—in fact, it is a man-size job.

How about the labor problem? This question always comes up, and the answer is usually about the same: We have a hard time getting men or steady boys. Mrs. Oneill is fortunate in having a reliable, experienced man as foreman, and she has been able, thru the U. S. Boys' Working Reserve, to fill in with high school help from Denver. She found the untrained boys willing, and with patience on the part of herself and the foreman, has been able to pull thru. Discouragement has no place in her program, and she feels it her duty to produce every pound of food possible in order to help win the war.—A. T. S.

Methods of Harvesting and Thrashing Pintos

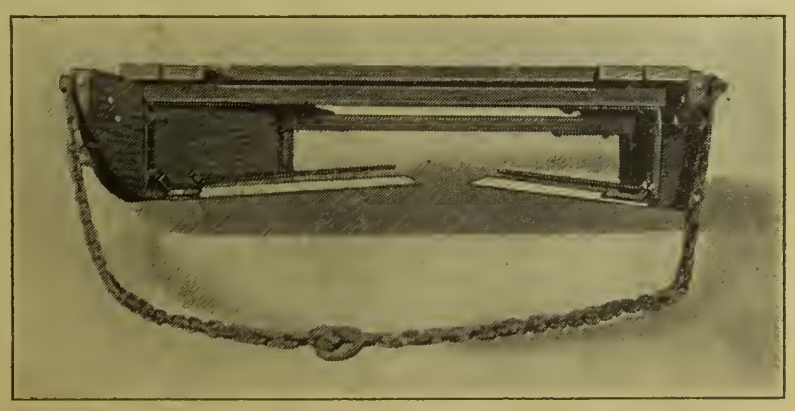
REGULAR BEAN CUTTERS AND HULLERS BEST FOR PURPOSE

ALVIN KEZER

THE best machines for harvesting beans are the regular bean harvesters. These machines cut the bean plants off below the surface of the ground and by means of fingers, push two rows together into one harvested row. The most up to date machines have bunching devices on the machine which bunch the cut vines into small, neat bunches. These bunches can be dressed up a little by a man with a pitchfork, for curing. Many of the machines, however, have no bunching device. In this case the bunching must be done by hand. Men follow the machine with pitchforks, putting the cut beans into neat shocks.

Under Colorado conditions, in practice the machines with the bunching attachment have not proved as successful as it was hoped. Some growers have found that, if cut while the vines and pods are sufficiently moist, they can bunch the vines with a horse rake. This practice has only one disadvantage, namely, the bunches are usually too large for the proper curing and drying out of the vines and pods. A better practice is to collect the vines in small, rather flat bunches which can be easily turned over with the pitchfork in the hands of a single man. Such bunches cure readily and, if wet, can be inverted for drying. It has been found by experiment that a much higher quality of beans can be obtained by this method of bunching.

While a regular bean harvester is desirable and should always be used if there is any considerable acreage of beans grown, they may be harvested by using a breaking plow of the rod type, or by using a common sod plow, with the moldboard removed. Such expedients are much better than hand work on patches an acre or more in size, but should only be used where the size of the patch is not large enough to justify the purchase of a regular harvester.



The illustration is of a home-made bean harvester, such as are in use on many dry land farms in Eastern Colorado. This particular one was photographed by W. H. Lauck, County Agriculturist of El Paso county, where there are many in use. The picture shows that it is the application of the corn cutter sledge type, narrowed to fit the bean rows, and with the knives so set as to cut off the bean stalks just under the surface. The runners are made of hard pine, 2x6's, well braced.

The ordinary type of blade bean harvester will not work on sod lands. Hand harvesting has been necessary in the past. A few growers have overcome this difficulty by setting in a revolving disk so as to cut off the plants below the surface of the soil. A special arm or frame has to be constructed to hold the disk at the proper angle and in the proper place. The disk, on account of its rolling motion, will not clog up with trash and chunks of unrotted sod.

Harvesting Period.

Opinions differ as to the proper time of harvesting. But experience and ex-

(Turn to page 13)

Wheat Grower is Faring Better

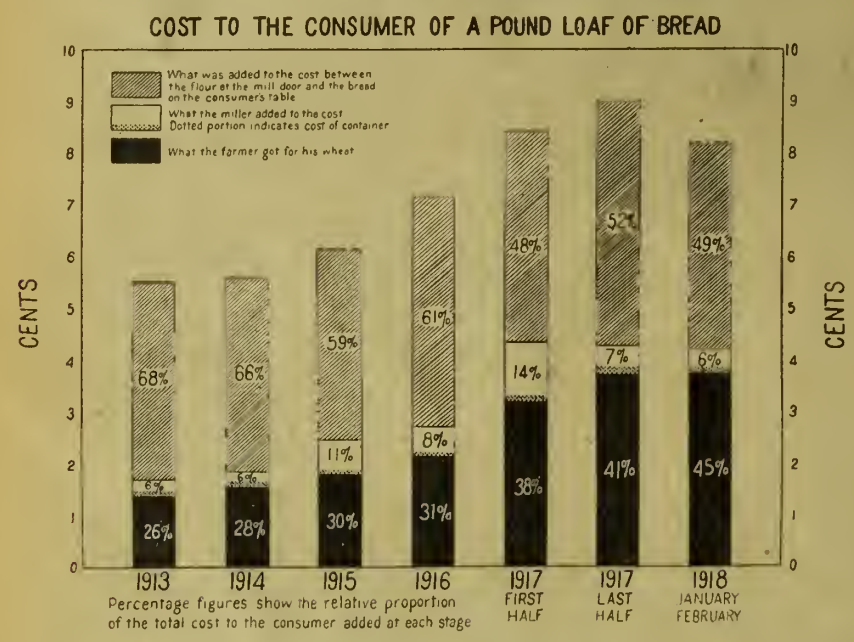
CHART SHOWS HIS PROPORTION OF PRICE

SINCE 1913 farmers have been receiving for their wheat a gradually increasing proportion of the price paid by the consumer for bread. The amount received by the wheat grower for his contribution to the average pound has increased from less than 1½ cents per loaf in 1913 to more than 3½ cents early this year. The proportion to the whole price is shown by the relative length of the black columns of the chart.

The middle portion of each column shows what the miller received for his milling costs and profit. This has been a somewhat variable factor, but is now at the minimum (6 per cent). In this 6 per cent, however, is included the cost of the containers (bags, sacks, etc.) shown as dotted area which has increased very nearly in proportion to the price of bread itself. Bags now cost about 50 per cent more than in 1913 and 1914.

The shaded portion of the column represents the expense of distributing the flour, making it into bread and getting the loaf to the consumer.

The chart shows that the farmer is now receiving a much larger share of the final price for his product than in the past, and that a considerable amount of "spread" has been taken out of other expenses.



The other classes of wheat than those mentioned above as equivalents will be dealt with on the following basis.

The class of Dark Hard Winter will be bought at 2 cents above Hard Winter; Dark Northern Spring at 2 cents above Northern Spring; Amber Durum at 2 cents above Durum; while Yellow Hard Winter will be bought at 2 cents under Hard Winter; Red Spring at 5 cents under Northern Spring; Red Walla at 7 cents under Red Winter; Red Durum at 7 cents under Durum; Soft White at 2 cents under Hard White; and White Club at 4 cents under Hard White.

Certain parts of the inter-mountain territory do not receive full compensation for freight increases under the above arrangements and, therefore, special arrangements by which the grain corporation assumes the compensation directly in this territory will be announced.

Wheat Price Schedule

The establishment of new freight has necessitated a change in the government price basis for wheat. After consideration of all factors the Food Administration announces the price basis at various markets for the grades of No. 1 Northern Spring, No. 1 Hard Winter, No. 1 Red Winter, No. 1 Durum, No. 1 Hard White, in store public elevators approved for storage by the grain corporation (seaboard or in store on export terms) as follows, effective July 1:

Terminal	
New York	2.39½
Philadelphia	2.39
Baltimore	2.38¾
Newport News	2.38¾
Chicago	2.26
New Orleans	2.28
Galveston	2.28
St. Louis	2.24
Duluth	2.22½
Minneapolis	2.21½
Kansas City	2.18
Omaha	2.18
San Francisco	2.20
Los Angeles	2.20
Portland	2.20
Tacoma	2.20
Seattle	2.20
Astoria	2.20

The basis for No. 2 wheat will be 3 cents below No. 1, and the basis for No. 3, 7 cents below No. 1. Grades below No. 3 will be dealt in on sample.

It is expected that the changes in federal grading standards will throw more wheat into higher grades than last year. The changes in price are worked out as nearly as possible to compensate for increases in railway and sea freights.

Spotted Bean Beetle

The spotted bean beetle is doing serious damage to the bean crop in many localities. This is a difficult insect to control. The methods are given below. Use the one that best fits your conditions.

In small garden patches, go over the plants every two or three days, examine the underside of the leaves and destroy the beetles, which are dusty brown in color with many small black spots on their backs; or their young, which are light yellow in color. Also destroy all the egg patches which are on the underside of the leaves.

In large patches, much can be done by brushing the beetles and their young upon the ground in the hottest part of very warm days.

Spraying the plants with one pound of arsenite of zinc and one pound of freshly slaked lime, to 50 gallons of water, gives very good protection. If the arsenite of zinc cannot be obtained, arsenate of lead can be used instead, applying one pound of the powdered lead arsenate and one pound of lime to 40 gallons of water. Do not use paris green, white arsenic or arsenate of lime.

Beans are very sensitive to arsenic, and there is danger of some injury to the plants. The beetles will still do some damage, but these applications will usually enable the plants to make a crop where they would otherwise be a failure. I would not recommend spraying for a light infestation.—C. P. Gillette, State Entomologist, Colorado Agricultural College, Fort Collins, Colo.

The distribution of sugar is just a little matter of arrangement among friends.

Hand Pull Lateral Gates
These gates prevent cutting the ditch banks in order to divert the water and put the water under complete control of the irrigator. They are durable, low initial cost, preserve ditches. May be attached to "Armco" iron pipe outlet conduit any desired length. No cement work required.
Write for our free 125 page catalog, which illustrates and prices these gates, as well as more than 65 other articles for the irrigator including the "Armco" flumes, ditch lining, pipes, culverts, tanks, troughs and grain bins.
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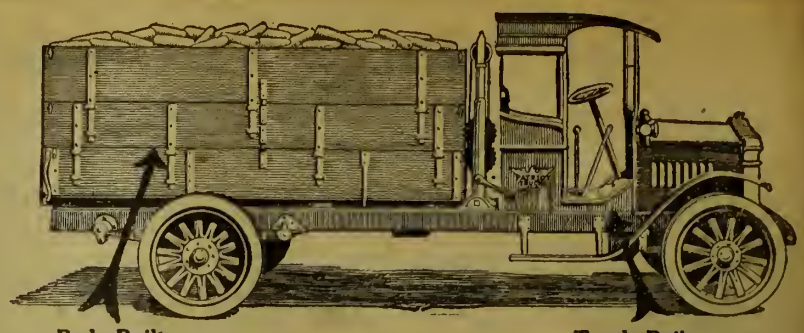
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Truck Built for Country Roads

Patriot Farm Truck

The farmers of America now have what they have been waiting for—

A truck built for farm conditions and farm work.

No intelligent farmer questions the superiority of truck service over horse service for general transportation. The only question has been whether the trucks built for service over the paved streets of cities, with bodies designed for city haulage, were the proper trucks for farm use, and most farmers have felt they were not.

The Patriot Farm Truck affords the farmer economy, convenience and certainty of transportation of his crops and live stock.

The Patriot will double or treble your load capacity and cut the time of delivery in two. It makes you master of weather and roads, and cuts the distance to your market town to one-fourth.

The Patriot will increase the value of your farm $10 an acre by bringing larger and better markets within your reach. It will pay for itself within one year. Write for full information and prices.

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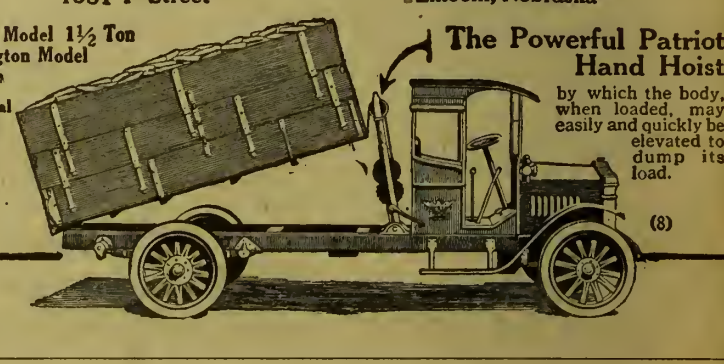
The Powerful Patriot Hand Hoist
by which the body, when loaded, may easily and quickly be elevated to dump its load.
(8)

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BUT it is money that will return a big yield—if you safeguard your investment. You can lengthen the life and increase the efficiency of your tractor by using only
STANOLIND
GAS ENGINE TRACTOR OIL
For the lubrication of cylinders and external bearings. It means a smoother running tractor, more power at the draw-bar, and less time out for repairs. Best for the tractor because it's made for the tractor.
THE CONTINENTAL OIL COMPANY
(A Colorado Corporation)
DENVER PUEBLO SALT LAKE CITY CHEYENNE
ALBUQUERQUE BOISE BUTTE

Thrashing Rates Agreed On

Meetings have been held in a number of Colorado wheat-growing counties for the purpose of arriving at a fair rate for thrashing wheat. In Weld county the agreement reached at a meeting of growers and thrashermen resulted in the adoption of the following schedule:

Ten cents per bushel for thrashing barley and oats.

Fourteen cents per bushel for thrashing wheat.

This for thrashing from the shock, the thrasherman furnishing the crew.

The rate of wages per day for thrashing crew was fixed at $3.50 and board, with a bonus of 25 cents per day for those who stay thru the season. The rate for team and man was fixed at $5, with a bonus of 25 cents a day for staying thru. The rate for separator men and engineers was fixed at not to exceed $6 per day.

In Adams county it was decided to add 90 per cent to pre-war rates for all operations, taking the rates prevailing in each locality as basis. This decision was arrived at on figures showing the grower to get 90 per cent more his wheat than just previous to the war.

Mysterious Cattle Disease

A disease among cattle not previously reported appeared last summer in eastern Colorado. It has appeared again this summer and is becoming quite serious. Cattle, one after another in a herd, become blind and are unable to eat or drink. Investigation of the disease in the dry-land districts of Otero county revealed quite a serious condition.

There is apparently paralysis of the optic nerve and the tongue, without inflammation of these or adjacent organs. There is congestion of the brain with but very little if any fever. Animals are unable to eat or drink, but if food is placed back in the mouth they will masticate it with avidity and swallow it without difficulty. If water is poured into the mouth they can easily swallow it and will give evidence of wanting more.

We do not know the cause of this condition, but bad water and scarcity of food would seem to be contributory factors. It has been learned that if animals are fed artificially and watered for a few days that they almost invariably recover, otherwise they usually die. No poisonous plants were found that could be considered responsible.

In the absence of definite information respecting this disease we can only suggest at this time that plenty of feed and pure water are most essential and that most animals may be saved by artificial feeding.—Geo. H. Glover, Colorado Agricultural College, Fort Collins, Colo.

Eradicate Poverty Weed

"I have a small patch of poverty weed on my farm. What is the best way to get rid of it?"

This is a common inquiry. Fortunate, indeed, the patch is not a large one. But unless the small patch of poverty weed is promptly exterminated and fought against as one would fight the Hun it will soon threaten your whole farm.

Cut off every sprout as soon as it gets above the ground. Do not allow any top growth to develop. Keep everlastingly after it. You will have to remove the top growth every 7 or 10 days for a couple of seasons or more, but your labor will be well spent in that you have prevented the small patch of this pernicious weed from overrunning your farm. The square rod of poverty weed in one corner of the field looks harmless enough, whereas in reality it threatens your entire acreage, unless promptly eradicated.—W. W. Robbins, Colorado Agricultural College, Fort Collins, Colo.

Binder Twine for 1919

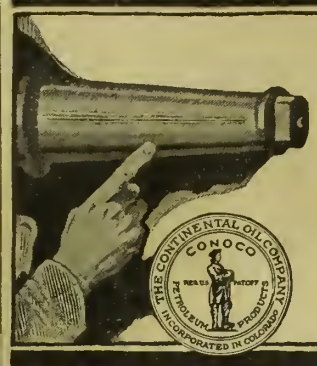
Binder twine for the harvest of 1919 will cost American farmers about 3 cents per pound less than they have paid this year; the estimated total saving to grain growers of the United States is $6,000,000. This announcement of the U. S. Food Administration follows an arrangement it has made with the Comision Reguladora, the Yucatan monopoly controlling sisal, whereby the Commission has contracted to sell 500,000 bales of sisal to twine mills of this country at a price 3 cents less than a year ago.

That quantity of sisal represents the principal supply of fiber needed to manufacture binder twine for the grain harvest of 1919. To maintain an economical operation of twine mills in the United States, sisal is contracted for about a year ahead and is manufactured into the finished twine thruout the year. By the new arrangements, the cost of sisal will be approximately 16 cents wholesale at gulf ports compared with 19 cents per pound for the sisal used in making the twine for the present harvest.

Since its early investigations of binder twine, which is a vital element in our grain harvest, the Food Administration has maintained that the Comision Reguladora of Yucatan must sell its sisal at more reasonable prices if it expects to retain this country as a large customer. Sisal growers have complained, however, of the high cost of food and supplies which they secure from the United States. With the hope of establishing a better understanding between Mexican and American producers, the Food Administration proposes an exchange of agricultural commissions. A commission of Mexican farmers has been invited to visit the United States and study the production and distribution of articles they secure from this country.

In case the proposal is accepted, the Food Administration plans to have a committee of American farmers visit Yucatan to study methods and costs of sisal production. Such an interchange of study is expected to prepare the way for mutually satisfactory conditions in future sisal arrangements.

Crops have been badly hurt in some localities by want of rain, hay damaged in others by too much rain, while hail has damaged considerable wheat after it was grown. Really, now, can it be that the weather clerk is pro-German?



Put Your Finger on the Trouble

Every axle is porous and covered with seams. Rub your finger over the surface and you'll discover the reason for friction. Then use

MICA Axle Grease

on your axle and prevent friction. It is made of the finest grease stock and powdered mica. It fills the pores and gives the axle a bright, hard coating.

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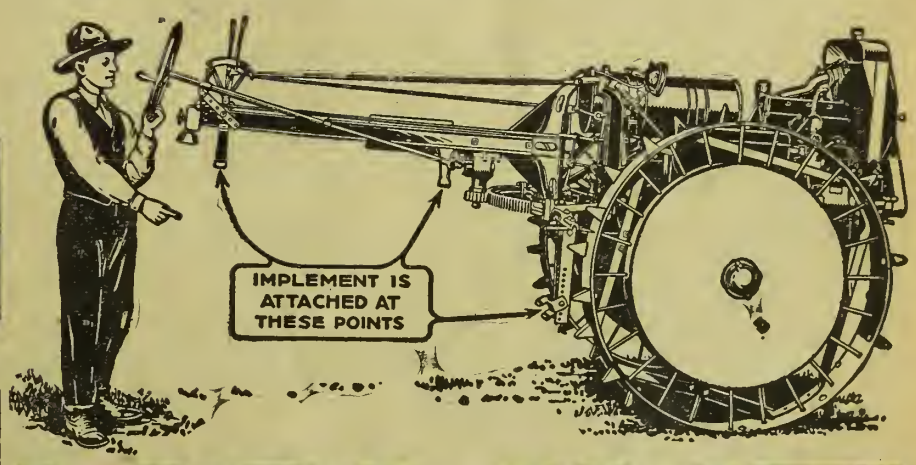
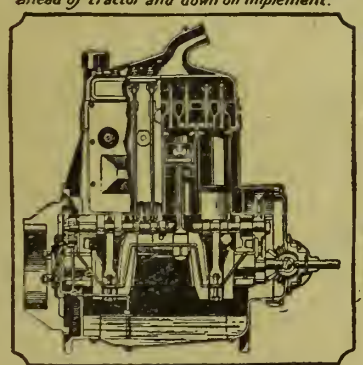
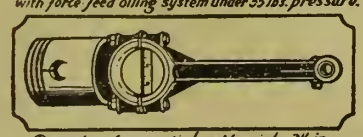
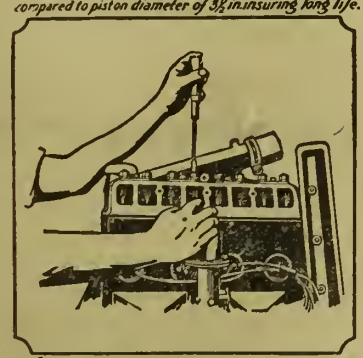
No Other Tractor Has So Many Good Mechanical Features=

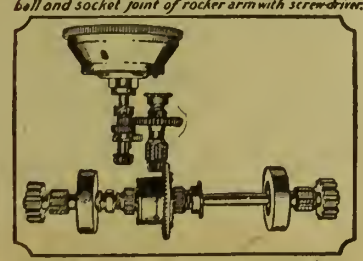
Electric lighting system throws light both ahead of tractor and down on implement.




Perfected overhead-valve Four Cylinder engine, with force feed oiling system under 35 lbs. pressure.


Diameter of connecting rod bearings 2½ in. compared to piston diameter of 3½ in. insuring long life.


Valves placed in perfect adjustment by turning down ball and socket joint of rocker arm with screw-driver.


Completely enclosed transmission with steel cut gears, Hyatt bearings, differential lock, and brakes

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It Solves The Farm Help Problem

EVERYONE who knows what a tractor should do, agrees that the Moline-Universal has three distinct advantages over all other tractors: lighter weight; greater economy and ease of operation; ability to do all farm work, including cultivating; and ONE-MAN control of both tractor and implement from the seat of the implement, where you have always sat, and where you must sit in order to do good work.

Aside from these distinct advantages which the two-wheel construction gives, the Moline-Universal Tractor, Model D, is still the best tractor on the market. In every detail it has been refined and perfected to the utmost limit of modern engineering knowledge.

Self Starter—Electric Lights

The Moline-Universal is the only tractor regularly equipped with a complete electrical starting, lighting, governing and ignition system. The starter saves many hours of productive work, besides eliminating back-breaking labor. Electric lights enable the tractor to be worked at night during rush seasons.

An electrical governor perfectly controls the engine speed. By simply turning a dial, within easy reach of the operator, engine manitains any speed from ½ to 3½ m. p. h., and automatically handles all changes in load.

Perfected Four-Cylinder Engine

The perfected four-cylinder engine is the latest development in overhead-valve construction. With a bore of only 3½ inches a 2½-inch crankshaft is used. The strength and thickness of the crankshaft eliminates all vibration. Oil is forced through hollow crankshaft to all the main and connecting rod bearings under a pressure of 35 pounds to the square inch. The bearings float on a film of oil, so their surfaces never touch.

Double valve springs give unusually quick action with soft seating. Rocket arms are swiveled on ball and socket joints that may be turned down with a screw driver, placing the valve mechanism in perfect adjustment at all times. This engine develops unusual power and is very economical in operation.

Steel Cut and Hardened Gears

The transmission is completely enclosed, with drop forged, hardened, and cut steel gears running in oil that reduce power loss to a minimum. All gears are mounted on heavy duty Hyatt roller bearings, with high grade ball bearings fitted with adjustable collars to take up end thrust. Fifteen Hyatt roller and five ball bearings are used in the Moline tractor. Seven splined shafts are used in locking gears to shafts. This is the strongest construction known, and has the additional advantage that it makes the transmission easy to take apart.

For pulling in soft ground, the two drive wheels can be made to revolve as one by means of a differential lock, doubling their pulling power.

Complete Enclosure of All Parts

The final drive is completely enclosed in dust tight shields, the edges of which are sealed by heavy grease used to lubricate the gears. Every part of the Moline-Universal tractor is protected against friction and wear.

All working parts are accessible. All the weight is so well balanced on two wheels that the rear end of the tractor can be supported with one hand.

The Moline-Universal Model D will give you longer and better service at less expense than any other tractor. It is built for positive reliability.

Our catalog describes the Moline-Universal in detail. Send for it. Address Department 107.

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Together for Victory

So encouraging has been the news from France lately that we have stopped for a moment to cheer the boys onward to final victory. The pause was momentary. It did not take us from our ripening fields, from our dawn to sundown tasks, for these are all a part of the Great Battle which is being fought, and fought hard, for the final triumph of Right over Might. As this is being written the casualty lists are coming in. Here a son, there a brother, has given his life for his country; for us! These sacrifices, bitter as they may be for those who are left behind, yet leave a healing balm in the thot that they are made in the cause of humanity. What a lesson there is for us in the courage with which these boys are facing the fire! What a rebuke if we waver, or waste our time in quarreling over the proceeds from our sales to the Armies of Liberty! Let those who will be wolves. Let dog eat dog, but honest men, with stout hearts, must carry on. What a world of cheer it brings to the trenches to know that back here we are working as one to be worthy of the sacrifices they are making for us!

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The Fixed Price of Wheat

In one of the farm journals published in the wheat belt there appeared the following statement, credited to an Oklahoma wheat raiser:

"The farmer raised wheat at a loss for 40 years, and when the great war came on and gave him a chance, once in a lifetime, to make some profit, he was the first man to be regulated and have the price of his product fixed below the cost of production."

It is statements of this kind that bring the charge so often erroneously made, that the farmer is profiteering—or wants to profiteer. There are two declarations in the above paragraph that are not true, the first being that the farmer has raised wheat at a loss for 40 years. Some farmers have lost money raising wheat, but no sensible man will believe that the western wheat grower would have gone on for four decades to grow an unprofitable crop. The second statement which is not true is that the price of wheat was fixed below the cost of production. It does not cost $2 per bushel to produce wheat even in these times of high charges for labor, and every operation of farming. The great majority of wheat growers have made a profit on wheat at the prices fixed by the government.

There is the best reason in the world for fixing a price on the staff of life, and a vast majority of wheat growers are content with that action, because they know there are other people in the world besides wheat producers. Any legitimate complaints they may have about paying double prices for unregulated articles can be voiced without putting the farmer into the attitude of wanting to get his share of the division of blood money out of the war. The farmers are in this game to help win. Those whose ideals are no higher than the thought of making money out of the struggle are to be classed with the commercial profiteers, who should be stood up against a wall before a firing squad.

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Don't Tax Necessities

Congress should be careful in fixing its war tax program to do nothing that will hamper crop production. A 10-cent tax on gasoline is not too high when applied to that portion of the fluid used for pleasure purposes, but any additional charge for fuel oil used in productive enterprise, either agricultural or commercial, would be a blunder. The automobile, the auto truck, the tractor and the gasoline engine are absolutely essential to the proper conduct of a modern farm, just as essential as is power to a manufacturing plant. To place a war tax on fuel oil for such purposes, in the effort to tax luxuries, is unthinkable. Stop all pleasure touring if necessary, but let nothing interfere with the free use of power on the farm, for power is as essential there as it is in the munitions plant.

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Cash in the Scrap Iron

Somewhere on almost every farm there is a collection of discarded machinery and odd pieces of scrap iron. This scrap can contribute to the winning of the war by being converted into war material or new farm machinery. All this discarded machinery should be melted and incorporated in new castings. The aggregate scrap on American farms is enormous. The gathering up of it will help supply needed a-terial, improve the appearance of the farms and yield profitable returns.

After harvest, there is usually a lull in the rush of the farm work. This is the time for gathering up the scrap. Worn or out-of-date machinery is constantly being replaced with new labor-saving equipment. These old tools merely clutter the premises. They have done their work. Now is the time to cash in on the salvage, while prices are high.

In the past, prices offered for scrap iron have been so low as to scarcely tempt a busy farmer. But today the demand for it is so far greater than the available supply that prices have advanced sharply. Besides, there is the satisfaction of having found one more channel thru which to help win the war. By all means clean up the scrap.

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Motor Trucks to the Rescue

The movement to utilize motor trucks on rural express lines has received the endorsement of a number of state food administrators. The highways transport committee of the Council of National Defense has received a very general and prompt response to its suggestion that motor trucks be utilized to facilitate the movement of perishable food products to shipping and consuming centers. This will relieve farmers of some of the task of hauling so that they may devote more time to actual crop production in the field during the period of labor shortage.

Reports received from many sections indicate that farmers have been inclined to decrease the production of perishable foodstuffs, owing to the time required for hauling to markets. Small lots of fruits, vegetables and other produce which could ordinarily be marketed have been left on the farm because of labor shortage. Rural motor express gathers up such produce and delivers it to market promptly, thereby operating to increase the local food supply of perishables and to aid in the campaign to save staple foodstuffs.

An interesting plan has been developed in the vicinity of Washington, whereby motor truck loads of fruits and vegetables for canning will be delivered direct from the producers to canning club centers in the city and sold wholesale to members of these clubs for canning in the home. This more direct system of marketing will assure an increase in home canning and facilitate the movement of perishable foods and vegetables.

The adoption of motor truck hauling in sections not served by short-line railroads is another important development, particularly in the southwest. The food administrators of Arizona and New Mexico report that there are many outlying but fruitful valleys which are inaccessible to easy rail shipments where motor trucks can be used and save quantities of perishables to be brought to market that might otherwise be wasted.

Arrangements are being perfected in a number of important fruit-growing sections to supplement the usual shipments of fruit by rail by using fleets of motor trucks during the rush period of fruit harvest. Surveys conducted by the highways transport committee show that trucks can be made available for this work and all that is required is that steps be taken to mobilize them promptly when needed. It has also been found that a large number of trucks owned by farmers are now used only a few days a week, and in many instances arrangements can be made to have these trucks used to haul perishables in an emergency.

While the motor truck is counted on to help relieve car shortage and railway traffic congestion, it is also finding increased use on the farm, in hauling produce to the nearest market. The saving in time is especially beneficial in the handling of perishables, but for staple farm crops also it is a necessity forced on the farmer thru shortage of help.

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Silage Worth $7 per Ton

Silage value is often estimated as approximately one-third the value of alfalfa hay, according to H. Umberger, county agent leader for Kansas.

"Alfalfa has been selling as high as $27 to $30 a ton the past year," said Mr. Umberger, "and at present is bringing about $21 a ton delivered at Kansas City. On this basis silage is worth $7 a ton. Some farmers may look upon the silo as an impractical business proposition this year on account of the increased cost of construction and the difficulty of securing additional labor for filling the silo. Many farmers in the state fill their silos with little additional help, and in many localities where the farms average about 160 acres and the usual force of farm help is relatively small the farmers club together for the exchange of help at silo-filling time. Either of these plans reduces the cost materially.

"It is not necessary to fill the silo in two days. More time can be taken and a smaller crew used, provided there is not a greatly increased overhead charge for the use of expensive silo-filling machinery. Silage valued at $7 a ton is worth more than double what it was worth when the cost of silos was 25 to 50 per cent below the present cost."

✦ ✦ ✦

Sunflower Silage Tests

Experiments with sunflowers to determine their suitability for silage are being conducted in the western United States by the Bureau of Plant Industry, in co-operation with state experiment stations. There are indications that this crop may be specially useful in regions where the growing season is too cool for the production of large yields of silage corn. The experiments were begun in 1917 at Huntley, Mont., and Scottsbluff, Neb., and the first year's results led the investigators to extend the work to other points this year. In 1917 the yields of sunflower silage exceeded those of corn silage in the same fields from 50 to 100 per cent. Yields of more than 20 tons per acre were obtained under irrigation. Preliminary feeding tests have indicated that the sunflower silage may be substituted satisfactorily for corn silage, but directly comparable results have not yet been obtained in sufficient volume to justify a full statement as to the comparative values of the two feeds.

Go easy with your spoon—more than five million soldier boys are dipping from that sugar bowl.

The Branding Iron

Applied by Elias M. Ammons

A cruise of the land purchased from the government for the School of Forestry at the Colorado Agricultural College at Fort Collins shows timber to the amount of 9,000,000 board feet.

* * *

Now is the time to begin plowing for fall wheat. Colorado should double its crop for next year.

* * *

This year more than 25,000 trees were planted in eastern Colorado under the supervision of State Forester Morrill. Next year it is hoped to quadruple the number. Arrangements have been made, with the co-operation of the federal government, to furnish these trees at a very low price and the state forester is prepared to give assistance whenever needed.

* * *

The plan of the cattle men to donate calves to the Red Cross at the stock show next winter is meeting with great success, and promises to be the most striking feature of the show. It is expected to raise hundreds of thousands of dollars, and cattle growers of four states will contribute.

* * *

The country is facing a shortage of coal, especially for manufacturing purposes. This reminds us that there is still undeveloped water power in Colorado alone to the amount of 2,000,000 horsepower, which, under a liberal, common-sense policy, might be brought into service to relieve the situation.

* * *

Report now has it that a combine has control of all the tanneries of the country. Being the only purchaser for hides, it fixed the price as low as it liked. Having the only supply of leather, it charged for that "as long as it could hold its breath." Uncle Sam has stepped in and ordered a raise in the price of hides. He should go a step further; fix the price of leather, and then look carefully into what the manufacturers and the dealers are doing. Shoes are a universal necessity and profiteering should be effectually stopped.

* * *

Colorado's immigration board and commercial associations should join their efforts to settle up our lands and increase crops and meat production. We have the vacant lands and there are thousands of desirable families in the country looking for homes. Prices of all products are abnormally high and almost certain to remain so for years to come. Our main need is more people, greater development and increased production. These will not only help us to win the war, but are the essentials to build prosperity for the future.

To the Farmers of Colorado

The U. S. Bureau of Markets, co-operating with the State Marketing Committee and the Colorado Agricultural College, is undertaking at the present time an extensive campaign, to increase the storage facilities of fruits and vegetables thruout the state of Colorado. The reason for this campaign is self-evident. During the past season in Colorado millions of pounds of food products decayed, spoiled or froze, due to lack of storage facilities, or because cars could not be secured to move the crops to market. Terminal markets were glutted when the movement started. Later, due to the scarcity when the crops could not be rolled to market the prices went up.

This coming fall and winter there is apt to be a repetition of the same thing, tho conditions will probably not be as serious, but now is the time to prevent a repetition of this unnecessary waste in foodstuffs.

The services of a storage expert were secured early in May. This expert has been visiting the producing sections of Colorado, instructing the growers in the proper methods of storage and aiding them in solving their storage problems. In this way some of the growers in the state have been reached, but it is desired that every farmer thruout the state know of this campaign and the free help and council of this storage expert.

The Bureau of Markets is in a position to give you reliable information on the proper methods of storage and to help you solve your individual storage problems. If conditions in your community warrant, this specialist can be sent to aid you personally. The problem is one that concerns you, not only to help Uncle Sam, but to conserve the food for our boys and for the Allies. For further information address: The U. S. Bureau of Markets, Room 26, Custom House, Denver, Colo.

Comment by Farmer Putnam

OUR MISSOURI FRIEND ATTENDS STATE MEETING OF COUNTY AGENTS AT AGRICULTURAL COLLEGE

A REGULAR barrage of farm wisdom was let loose up to Fort Collins last month when the Colorado county agents met fur their annual session. Just think of havin' twenty-nine of them agricultural owls together in one room! I was the only farmer in the meetin' and I felt mighty small when I looked around at them capacious domes of farm knowledge—regular silos full of all wisdom, ready to pour out advice on the turnin' of a faucet. If any one man knowed half as much as them twenty-nine county agents about farmin' he would bust open like a ripe tomato.

The lady agents was present, too, but accordin' to rules laid down by Josephine, I'm to let 'em alone. I used to be quite a feller around the gals when I was younger and I reckon Josephine thinks some of the old devilmint might crop out and I might git to buyin' ice cream sodys fur them lady agents if I git too well acquainted. I don't know but what she's right. You see with all the young fellers gone to war even us older fellers with chin whiskers and gray hair ain't proof ag'in flirtin'. Not that any of them lady agents would flirt, but then I got to be careful, fur bein' more or less before the publick I cain't afford to have no gossip; anyhow so's Josephine would hear of it. I heard our pastor say that man was a poor weak worm of the dust, and I reckon that's about the truth, and mighty few men ever tries to git beyond the weak worm stage.

It done me good to see all my old friends like the three Smiths—the fourth has gone to Oregon—and therest of the bunch, Burckhalter, McCord, Lauck, Jeffries, Tucker, Allred, Nevius, M. Effervescent Knapp, Simpson, Groom, Tripp and the newer ones that I hain't got well enough acquainted with to roast yet. Never mind, boys, your turn is comin'.

A county agent is just like a preacher or editor—everybody is pickin' on him. As long as the county and the government pays him good wages he hain't got no cause fur complaint.

I listened to some of the talks that they give to 'em. I was wonderin' who could tell a county agent anything he didn't know. Well a feller from Idaho tried to, but he didn't succeed very well. He was Mr. Hockbum, the state leader from Idaho, and he was tryin' to tell them county agents how to run a farm bureau. They lissened respectful enough but I could see by the way they asked questions that they didn't think much of the plan. You see, a county agent has got to be the best judge of what the farmers wants in his own bailiwick, and most of 'em felt that the kind of farm bureau they had was the best, and they didn't see no use in changin' their way of doin' business. They're a independent lot of fellers when you git 'em together and I reckon it's just as well. I wouldn't give five cents fur a county agent that didn't have a few original ideas about the farm organization business.

I'd hate to have Mr. Lovett's job. He's the state leader fur Colorado and he has to keep that bunch complyin' with the red tape from Washington. After the experience he's had in the last few years he could serve as ambassador to the Bolshevik government in Rooshia.

Of course you cain't blame the county agents fur kickin' on them Washington rules. Some of 'em sounds awful foolish, especially in these here war times when we need efficiency instead of bookkeepin', but I reckon rules is rules, just like pigs is pigs. Put yourself in a county agent's place; spend all mornin' runnin' around in your Ford vaccinatin' calves, treatin' oats fur smut, puttin' out Paris green fur hoppers and arsenic fur prairie dogs, organizin a boy's pig club in the afternoon, attendin' a school meetin' at night and git in about midnight all tired out and see if you feel like doin' a little extra bookkeepin' to please some feller down in Washington.

It's a regular dog's life, but then you don't see none of 'em resignin'. I've noticed this in my long experience with the world, that if you take a hundred per cent man, give him a lifesize job with lots of worry and hard work and plenty of knocks, he makes good and you cain't pry him loose from the job with a crowbar so long as he's paid well. So when a county agent tells me he's worked to death and he grumbles and growls, I sort of feel that he's just a normal human hustler, up ag'in the problem of life and that he'll make good as long as there's any fight in him. When he gits into the habit of sayin', "Oh what's the use," the county might as well git somebody else or discontinue the work, fur the prairie dogs won't eat the pizen put out by that feller and the hoppers will just gather on the edge of the alfalfa and laff at his doped bran.

They is some counties in Colorado that hain't got no county agent yet, and I was askin' a farmer not long ago why it was that his county didn't have one. He sez: "Well, in our part of the county the majority of the farmers want an agent, but the other part is all leased by stockmen and they're ag'in it."

Wantin' to know why they was ag'in it, he sez: "Well, you see, if they git a county agent it will make things pick up so that people will want to farm the land instead of leavin' it fur the cattle and that'll take the free grass away from them range fellers."

I reckon if Mr. Hoover hears that some of them fellers that leases big pastures is opposed to county agents they will hear somethin' drop.

I might-a said some foolish things about the value of county agent work, but now I'm goin' to be serious fur once. I seen the county agent system at work in one-third of the states in the Union—traveled over 'em myself and mixed with the farmers and seen how things was goin' on. Now I'm here to tell you farmers that hain't got the benefit of this work that the county agent ain't no professor of everything who knows it all, or tries to tell you how to run your farm. He is a trained man at the service of all the farmers in a county, to work out their problems in a organized way; to apply scientific methods to the farmin' program of a uounty so's all will be workin' together fur better yields, better methods, better markets and better returns. It ain't the knowin' how to do these things that is needed by us farmers, but somebody to git us to carry out good ideas, and that's the county agent's job. It takes a feller to push us into prosperity and, take it from me, it's meant millions of dollars to this country to have them pushers behind us to help us over the bumps. We'd a fell far short of comin' to the scratch on food crops if the government hadn't of had this organization to work thru in reachin' us farmers when the war come on. I ain't a-sayin' that all county agents is good, but I do say that the feller that thought up the system ought to have a monument put up fur his memory.

Now, boys, havin' delivered a nice boost fur you, I trust you-all will drive the jitney easy over the ruts when I come visitin' round in your county. Some of 'em kind-a enjoy joltin' me around. That's the only way they have of gittin' even fur me roastin' 'em in the paper.

THOMAS JEFFERSON PUTNAM.

"On your honor as a woman, how much sugar do you *need*?"

Dairying and Hog Raising

GEO. E. MORTON

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Breeding Milking Shorthorns

In the west there is probably more interest in milking Shorthorns than in any other dairy animal except the Holsteins and Jerseys. I am speaking of the Shorthorn in this connection as milking Shorthorn rather than dairy Shorthorn, as I believe the tendency of many who advocate the milking Shorthorn as a dairy animal is a mistake. The needs of dairymen for special-purpose dairy animals are already well supplied by breeds that have been developed for that purpose for a very long time. There is little need and less likelihood of the Shorthorn arriving at keen competition with the leading dairy breeds under conditions of straight dairy production without regard to beef. Many dairymen of the east and some leaders in the dairy industry who should know better maintain vigorously that there is no such thing as a dual-purpose animal, and yet it is possible to cite numerous instances of such animals and breeds existing.

All sheep are dual-purpose animals, and the Shropshire sheep is a dual-purpose breed of a dual-purpose type of animal, possessing in a high degree production of both mutton and wool. The Ayrshire is a dual-purpose animal, regarded from the standpoint of milk and butterfat production. The Holstein-Frisian breed is especially developed with respect to high milk production, but carries a comparatively low percentage of fat in the milk. The Jersey, on the other hand, has a high percentage of fat and comparatively low production of milk. The Ayrshire carries both characters in a more moderate degree; and the so-called dual-purpose character in any animal is simply the carrying of two characters in good balance as compared with other breeds carrying one of them in the extreme and the other in a lesser degree. All animal breeding involves the choice from among numerous characters, such choice being made when animals are selected for mating.

It is well known that the difficulty of carrying along a number of characters in a race of animals increases as the square of the number of characters—that is, two characters are four times as difficult to carry along together as one character carried alone. Three characters are nine times as difficult to maintain in a race as one character. In other words, the most rapid improvement possible to secure in animal-breeding operations is thru seeking improvement in one line only, forgetting everything else. The modern exponent of the extreme big-type hog has come very near doing that thing. Many breeders of big-type hogs have demanded size only, regardless of what other development a hog should have. Improvement in size has been rapid in consequence, but no one who is a student of animal breeding will maintain that a permanently useful race can be built in that way. The useful animal is the well-balanced animal, possessing characters necessary for the purpose in view, all fairly well developed. It is granted by the warmest exponents of a dual-purpose breed that a special-purpose breed can excel in the one character for which they are striving, but that it does not impair the value of the dual-purpose breed for the double purpose for which it is intended.

On the average, milking Shorthorns will not produce as much milk or butterfat as a special dairy breed, nor will they produce as much beef as the extreme beef type of animal; but there are men and farms who have a place for the animal that will do both. There are large areas in the west that are carrying on the type of farming which will allow of the production of both milk and beef, and for one to argue that the returns from two animals of the dual-purpose type will not equal the returns from two other animals, one of the dairy type and one of the beef, argues plain ignorance of the laws of heredity. The interest, therefore, of our Colorado farmers in the milking Shorthorn is justified so long as their present conditions last, wherein they have cheap or free grass adjacent to their farm land, so that the steers from their dual-purpose cows may be raised at a minimum cost; and if conditions after the war result in continued high prices for beef, the field of the dual-purpose Shorthorn will be largely extended, as beef production will become a feature upon fairly high-priced irrigated land.

This preliminary statement seems necessary because of the antagonism which is often shown by dairymen towards the dual-purpose type, and many will argue that there is no such animal and you cannot breed them; therefore a discussion of breeding milking Shorthorns would be an anomoly. The difficulty in breeding milking Shorthorns is that the owner will usually develop a predilection either for milk production or beef production, and will gradually work his type towards a more extreme dairy type or a more extreme beef type. This thing has been evidenced in shows, particularly in Red Polled classes, time and time again, where herds of beef type are shown against herds of dairy type, and the judge must choose between them. If one is to make a real success of breeding cattle of this type, he must hold firmly to the idea of an equal balance between beef and milk. He must have a mind or acquire an idea of the ideal or typical cow which will hold these two things for him, and then he must select closely to that type, discarding the animals that run to an extreme either way, and he must keep in mind all the time that he will have three times as many animals to discard from his herd as the man who is selecting for a special-purpose type. This in itself may seem like a losing proposition, and it would be if there were no market for the discards to place where they would do good. There is, however, a market for the beefier type of milking Shorthorn to go to beef herds that desire to bring up the milking power of their cows somewhat in order to raise better calves, and there is a demand from the man on open range who is milking some cows and selling cream, for bulls that will improve the beefing quality of the calves of the herd out of the cows that are being milked.

Milking Shorthorns in this country are bred as they are found—that is, there is no special limited line of breeding for them. The Bates blood in Shorthorn is considered the foundation of the milking power in the modern Shorthorn, but there are very few pure Bates in America, and those that are pure are somewhat run out, so that practically all of the milking Shorthorns in this country are of mixed American breeding with a foundation of Bates blood, but often Booth and Scotch blood appearing in the pedigrees. The imported cows of this type come from England and in many cases come from herds that have bred for the dual-purpose type for many years. The American bred stuff does not usually run back so far in milking lines, because the demand in this country has sprung up in just the last few years, and prior to this recent strong demand there were only a very few herds in

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the country striving consistently to maintain the type. This makes it difficult to secure animals that can be counted on to reproduce the type and the milking power, and the ordinary buyer in this section is inclined to accept a bull that shows lack of fleshing power as a representative of the milking Shorthorn, if accompanied by a statement by the breeder that he is bred along milking lines. This means that many men will be disappointed in buying Shorthorn bulls of this type.

The wise buyer is going to demand milking records in the pedigree so that he may know that the female ancestors of the bull have been milked and given a reasonable amount of milk. I have little use for the so-called milking Shorthorn developed in herds where cows are never milked and the calves run with the cows as with beef herds. Such herds are on no other basis than the straight beef type Shorthorn, which has always been noted for producing more milk than other beef breeds, and the only difference in such a herd is that the owner may be selecting for better udder development and pretending to select for less beefing power, whereas in reality the appearance of his cattle is due simply to lack of acquaintance with the feed bin. To my notion there is no more beautiful animal, nor more useful appearing animal, than the great double-decker type of Shorthorn with plenty of scale, great depth of body, wonderful femininity, a good udder and the ability to produce a straight-line robust calf that will develop into a kind of steer that will finish as well on rough feeds, with a little grain, as any other type of beef steer.

We are going to come rapidly to the finishing of beef with less grain. We, in this country, have been most wasteful in our use of grain for fattening livestock, and when we quit it, as we must, the little fine-boned roly-poly animal that will puff out smoothly with the use of grain will not be able to compete with the rugged type of steer that will make good use of cheaper feeds and give us the ordinary type of carcass which the bulk of common citizens use; but the man who starts in on this must always want to produce both beef and milk. If he ever swings in his mind to one or the other, he should quit his dual-purpose type and go after the beefier type or adopt a dairy breed.

Colors which are objectionable in the beef strains of Shorthorns are found fairly frequently in milking Shorthorns. For example, spotted red and white is not liked in Scotch Shorthorns, altho a red animal may have white about the head or other points, but not scattered over the body. Roans that are off-color for the beef strains are acceptable in milking strains, such as a flea-bitten gray roan and light roans running to red about the forward part of the body. One thing I believe we should guard against is the tendency to selling shallow-bodied bulls. It is known by the judges of every dairy breed in existence that the deep-body character is in favor of milking power rather than against it, and yet some of our breeders of milking Shorthorns seem to be prejudiced in favor of a wasp-waisted, poor, hard type of animal that can never be a good eater or a good dooer. Some records on dairy Shorthorns are being started in Colorado, and I hope other western states will follow suit; but in going after records let us not for a moment forget type. Production in both beef and dairy animals was developed thru type long before records came into existence. We need the records, we must make no mistake on that, but we also need type.—G. E. Morton.

Milk Market Conditions

J. M. Collins of Eaton, chairman of the special committee of the State Council of Defense, appointed by Gov. Julius C. Gunter to help relieve the milk situation, reported at a recent meeting of the council that the milk market was slightly improving and submitted an important letter to the council that should be of interest in all dairying communities.

The letter, which was from the head of the canned goods division of the U. S. Food Administration at Washington, said that the condensed milk market over the entire country has been bad for the last five months because the allied governments had stopped all private trading in milk for their civil populations and had considerably reduced the amount of milk shipments abroad due to the necessity for conserving shipping space. The action, coming in conjunction with the period of heavy production, demoralized the market, caused a decline in price and threw upon the domestic market quantities of condensed milk that had been going abroad.

"The milk purchased by the allied governments thru the division of coordination," says the letter, "has been allotted to all companies on the basis of the proportion of their production to the total production of the country. The Loveland condensery has been somewhat favored by these allotments. We are advised by the division of coordination of purchase that they have received orders by allotment for 16,111 cases, whereas the total to which they were entitled on the basis of their production was 13,780 cases."

It was the inability of the Loveland condensery to market its oversupply of condensed milk that led Governor Gunter to appoint the special committee.

Further, in regard to the dairy-herd situation, the letter says: "We note your statement that it is the tendency of dairymen to close out their herds. We regret to hear of any such action and we think that any general dispersing of dairy herds would be a mistake from the dairyman's standpoint. While the demand for condensed milk for export has been somewhat limited, we are hoping that it will in the future to some extent increase. Large amounts are being purchased for our army and navy, and these amounts are likely to increase as our forces in the field are enlarged.

"The demand, however, for dairy products is not limited to the demand for canned milk. For your information we wish to say that less than 3 per cent of the milk production of the country goes into the making of canned milk, whereas 40 per cent of all the milk produced in the country goes to the making of butter and cheese. This is to say that most dairy communities do not have condensery markets for their milk, but sell to butter and cheese makers and to distributors in fresh milk markets. There is now a good demand for butter and cheese, which we understand will continue.

"Since dairying has always heretofore made for the prosperity of farming communities, it would seem unfortunate for any community where dairying can be economically carried on to abandon the industry because of temporary unsettled conditions."

Iceland, too far north to raise wheat, is preparing to make herself independent of grain ships by converting part of her potato crop into flour.

The Universal Thresher

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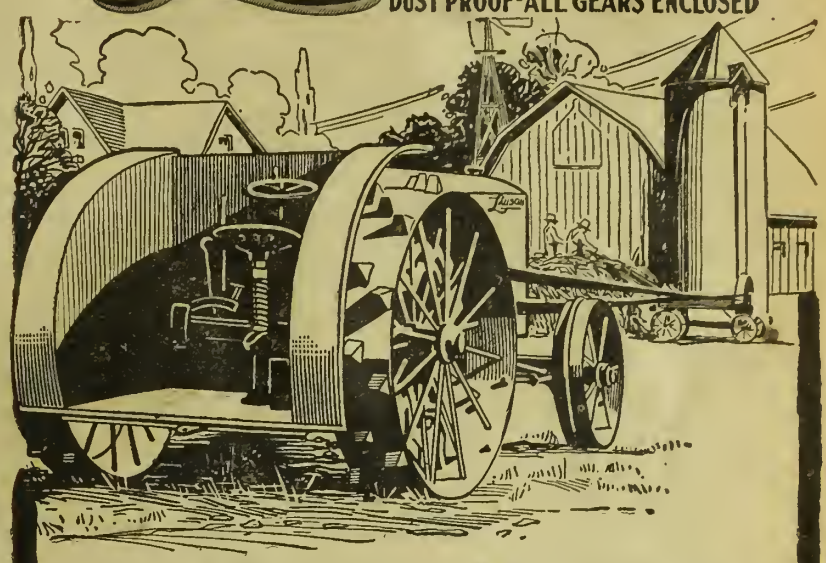
The LAUSON 15-25
DUST PROOF-ALL GEARS ENCLOSED



For Plowing and Belt Work

Most tractors are measured by their ability to *plow*. Field work is only *half* the work. Lauson farmer owners now look upon the Lawson 15-25 as a *power unit* for doing all the heavy work on the farm.

—for plowing, discing and seeding.
—for keeping up the country roads, pulling grader and running crusher.
—for running the silo cutter, hay baler or grain separator.

Lauson tractors are bought on performance and reputation. Send for complete information and specifications. Very often the *saving* pays for the Lauson in one season.

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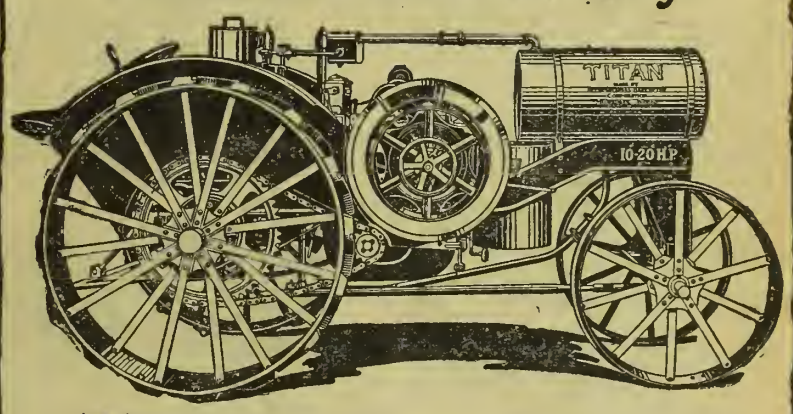
For 23 years Lauson Frost King Engines have been the standard of farm engine excellence—built in 2½ to 50 H. P. sizes.

THE JOHN LAUSON MFG. CO., 1127 Monroe St., New Holstein, Wis.

Safe Tractors to Buy



THERE is one safe way to be sure you are buying a satisfactory tractor. Buy from a concern that has had years of experience with all kinds of tractors and power machines for the farm.

A tractor can be considered safe only when it has been tested and tried, on thousand. of farms, under every combination of soil and climate conditions, and has given a satisfactory account of itself everywhere.

International, Mogul and Titan Kerosene Tractors,

as sold today, have over 12 years of tractor manufacturing, experimental, and field service behind them. These sizes and types are the ones that have stood every test.

Beyond question these are safe tractors to buy. They all operate successfully on kerosene and other low-grade fuels. They are sold by a concern that has sold for years all kinds of satisfactory machines to be operated by tractor power, thus assuring good work at both ends of the drawbar and belt.

We invite investigation and comparisons. See the local dealer who sells our tractors, or write us for complete information about a safe tractor to buy for the work on your farm.

International Harvester Company of America
(Incorporated)
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$20.00 Sweep Feed Grinder. | $26.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
610 E. Seventh St., Topeka, Kansas

Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Foundered on Wheat

I had a three-year-old filly foundered on wheat about a week ago. She is pretty sore in forefeet and puffed in hocks. I kept here standing in water for three days; am now using hot bran poultices on her feet. What should I have done at first and what is the best remedy now? Will her hocks go down, or will I have to treat them? Will greasing the hoof be beneficial? What should I use? Which is best for the hoof, wool fat or neatsfoot oil? Can you recommend a good conditioner for horses that are thin in flesh and not much life? Also have a heifer that is thin and hasn't a very good appetite.—W. F. D., Delta, Co.

I think you did very well in treating the mare for founder. Enforced exercise, beginning with the second day, would have been beneficial, also a laxative. The swelling in the hocks will disappear as soon as she begins to exercise. Keep the hoofs well cut down to provide frog pressure and thus relieve pressure on the hoof wall where the congestion is located. After a few weeks it probably will be advisable to oil the hoof walls and sole with fish oil, lard oil, or oil of tar.

Money spent on "conditioners" is wasted in most instances. If an animal is sick it should have treatment appropriate to the condition. It is a well-founded principle in medicine that treatment of disease should not be undertaken by a professional man, much less a layman, in the absence of the ability to diagnose the disease.

If your horses are thin in flesh, there is a reason for it, and it is first up to you to find the cause and remove it. You should first consider the amount and quality of feed and water, the amount of work required of them, and next look to the condition of the teeth. The food being coarse and fibrous and uncooked, the horses' grist mill must be in good condition, otherwise he will not properly masticate his food.—Dr. Geo. H. Glover, Colorado Agricultural College.

Not the Right Insects

Answer to O. C. H., Alamosa county:

The editor of Western Farm Life has sent me your inquiry concerning insects affecting your garden for reply. The insects were completely dried out and broken into small pieces, so that it would be impossible to tell species accurately. However, I am sure that none of the species sent are doing injury to your garden. You have evidently overlooked the injurious insects, and surely none of these that you send bore thru the roots and stems, as they are practically all predaceous insects that feed upon other forms of insect life, or dead animal matter. None of these insects that you send will affect your celery.

Air-slacked lime is of very little value for the destruction of insects and probably will not help to keep them off your garden plants except in the case of the little flea beetles that eat holes in radishes, tomatoes and some other garden vegetables. If you will catch some of the insects that are injuring your plants, and send them to me, I shall be very glad to give you any information I can concerning their control. I am sending you a copy of Bulletin 210 from the Colorado Experiment Station, which will give you considerable information concerning the control of insect pests.—C. P. Gillette, Colorado State Entomologist.

Dry Land Tree Varieties

Being located on the eastern border of Colorado, on Dry land, I would like to have some information about the varieties of trees that are recommended for western Kansas.—C. E. L., Cheyenne Co.

Tree planting for semi-arid regions requires a great deal of careful thought. In our work at Hays Experiment Station we are coming to believe that the planting of very young trees or even the planting of the seed where the trees are to stand is perhaps the better practice. The planting of acorns and black walnuts has given satisfactory results in most parts of this state. In the deep soils of the valleys they have made a good growth and are reasonably certain to succeed.

On the high dry lands the elm, hackberry, honey locust and Russian olive have succeeded better than the tap-rooted trees. Care should be taken that they are low-topped and short-stemmed. Many attempts to prune these trees high have proved disastrous. The sun burns the bark and borers take advantage of the injured tissue, hence the life of the tree is considerably shortened. Ash and elm trees are especially subject to injury by borers under such conditions. Western Kansas trees must necessarily be broad-topped and short-stemmed in order to protect themselves from severe wind and the dryness of the soil.

In the evergreen list, we still put red cedal at the top. It is a native of Kansas and has been most generally successful. Bull pine is perhaps second in desirability, but it is rather difficult to grow by transplanting. Austrian pine is next of the pines and is perhaps the most easily secured. The Scotch pine would follow the Austrian very closely in the choice of pines. The hopes we had for the Chinese arbor vitae have been somewhat checked by the number of cases of winter injury. However, there seems to be a good deal of variation in this species, and it is quite possible that we may secure a variety that may be more hardy for Western Kansas.—Albert Dickens, Professor of Horticulture, Kansas State Agricultural College.

Hernia in Foals

Answer to J. F., Wyoming:

Congenital Scrotal Hernia—Not a few foals are noticed from birth to have an enlarged scrotum, which gradually increases in size until about the sixth month, sometimes longer. Sometimes the scrotum of a six-months-old colt is as large as that of an adult stallion, and operative treatment is considered. This is unnecessary in the great majority of cases, as the enlargement often disappears by the time the colt has reached his second year. Any interference, medicinal or surgical, is worse than useless. If the intestine contained within the scrotum should at any time become strangulated, it must then be treated the same as in an adult horse.

Scrotal Hernia is caused by dilation of the sheath of the testicle combined with relaxation of the fibrous tissues surrounding the inguinal ring, thus allowing the intestine to descend to the scrotum. At first this is intermittent, appearing during work and returning when the horse is at rest. For a long time this form of hernia may not cause the least uneasiness or distress. In course of time, however, the imprisoned gut becomes filled with feces, its return into the abdominal cavity is prevented, and it becomes strangulated. While the gut is thus filling the horse often appears dull, is disinclined to move, appetite is impaired, and there is rumbling and obstruction of the bowels. Colicky symptoms now supervene. Strangulation and its consequent train of symptoms do not always follow in scrotal hernia, for often horses have this condition for years without suffering inconvenience.

Concrete Grain Storage

Suggestions to W. R., Adams county, who wants information about the building of a combination concrete and wood grain storage house:

It is our suggestion that in planning this proposed grain bin that you construct it entirely of concrete, instead of building it of a combination of concrete and wood as outlined in your letter. The reasons for this are briefly as follows:

A properly built concrete structure is permanent, once built it requires no repairs, it is rot proof. The fireproof qualities of concrete are so well known that no insurance need be carried on the structure, as it cannot burn. It is vermin proof. Rats and mice cannot eat thru concrete and destroy the grain. When you use concrete you build them out.

In reference to your inquiry as to the dryness of concrete walls, we would advise that only good workmanship is necessary to insure damp proof walls. Long experience has shown that concrete grain bins are perfectly dry and that grain stored in them keeps in perfect condition. Grain can only sweat in concrete bins when it is stored in a damp condition. The location of this bin on a side hill is O. K. The only thing necessary to do is to excavate to a substantial foundation. See booklet entitled "Concrete Foundations."

For the proper proportions of cement and sand and gravel for various uses of concrete and the correct methods of mixing and placing, see booklet entitled "Proportioning, Mixing and Placing Concrete." In a properly designed concrete bin you will have no trouble in constructing a doorway. For a small bin our booklet on concrete silos will give you an approximate idea of the reinforcing steel required.—P. F. Meade, District Engineer Portland Cement Association.

Certain to Win

"How's your boy getting on at the training camp?"

"Wonderful!" replied Farmer Applecart. "I feel a sense of great security. An army that can make my boy get up early, work hard all day an' go to bed early can do most anything."—Peoples Home Journal.

THE SELF-OILING WINDMILL

has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load

We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.

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For Every Size Farm and Every Kind of Work

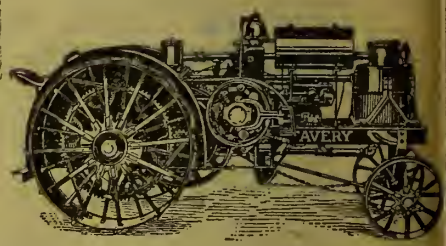
THE Avery is the **one standardized, thoroughly proved complete line of motor farming machinery** for every size farm in the world. With one of the sizes of Avery Kerosene Tractors, you can plow, prepare your seed bed, and plant **and harvest your grain crop.** With an Avery Motor Cultivator you can cultivate your corn, cotton, beans or any crop planted in rows. With one of the eight sizes of Avery "Grain-Saving" Separators, you can thresh all kinds of grain, kaffir corn, clover and other seeds. Every size Avery is a one-man outfit. For any kind of field work, belt work, or road work there is an Avery motor power machine that can be used safely, successfully and profitably.

Avery Tractors are entirely built in our own big factories and every part of an Avery Tractor (motor, radiator, transmission, etc.) is built **especially** for tractor work and **only** for the Avery Tractor. The Avery Company are builders—not assemblers. They specialize in motor farming machinery. Don't confuse the Avery Tractor and other Avery machinery with the ordinary assembled machine.

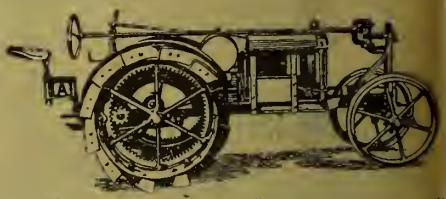
Special Features **With the Avery Tractor you can unhitch from one machine and instantaneously hitch to another at the drawbar, or apply belt power. And you don't have to use a wrench to do either—the coupler is automatic and the belt pulley is always in place.**

Avery Tractors are the only make with a Duplex Gasifier. It does the trick—turns kerosene or distillate into gas. The Avery motor is low speed. Main bearings are adjustable from the outside. Patented inner cylinder walls are removable. All parts are accessible and every part renewable.

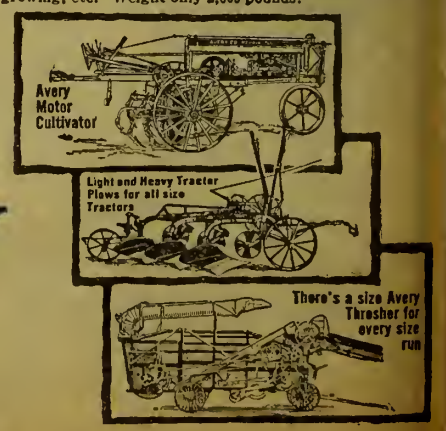
See the Nearest Avery Dealer Go to the Avery dealer and select and buy the size tractor and equipment to meet your requirements (no matter how small or how large the acreage you cultivate) or write direct for complete Motor Farming Catalog.



Avery 8-16 Tractor pulls 2 or 3 plows and drives 19-inch threshers, etc. Fully warranted.



Avery 5-10 Model B Tractor—just the tractor for small farming, fifty acres or less. Also for truck gardening, fruit growing, etc. Weight only 2,000 pounds.



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Motor Farming, Threshing and Road Building Machinery

The Farm Home

MRS. H. T. FRENCH

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Give the Best You Have

Give the world the best you have,
And the best will come back to you.
Give love, and love to your life will flow
A strength in your utmost need;
Have faith, and a score of hearts will show
Their faith in your word and deed;
Give truth and your gifts will be paid in kind,
And honor will honor meet.
And a smile that is sweet will surely find
A smile that is just as sweet.

—Madeline S. Bridges.

Cooling Drinks

One way of aiding the men in the field and increasing man power is to send that refreshing lunch into the field at just the right time. Accompany those delicious cottage cheese sandwiches Mrs. Coffin taught you to make with some of the following cooling drinks:

Mint Cup

Squeeze the juice from six lemons. Add the leaves of a dozen stalks of mint, 1½ cups of sugar (or 1 cup of strained honey) and a cup of water. Let stand twenty minutes or longer. When ready to serve it, pour the mixture over a large piece of ice and add four or five bottles of ginger ale or a tablespoon of ginger mixed with hot water. A sprig of mint may be placed in each glass.

A Nourishing Drink

Add to lemonade, beaten eggs, one to every two persons. A little salt adds to the flavor and stimulating effect.

Iced Tea

Scald the pot and pour freshly boiled water over the leaves, using a tablespoon of tea to a pint of water. Strain over ice and when cold serve with a slice of lemon and small cube of sugar.

Doing His Best

The boy who leaves the city and goes to the country writes: "I am waging war against potato bugs and bean bugs. I go over the fences every day and see if there are any bad places that the cows, horses and sheep can get into the fields and destroy the crops. I keep the bad boys from stoning the birds. I try to save everything that is usable. I keep fresh water in the chickens' water fountains, keep the roosts clean. I am trying to help all I can in the way of saving the crops, for good crops mean more food."

Our Pledge

Make twelve ounces of bread do where sixteen served before. And tho the wheatless bread is not quite so palatable as what we made from wheat, how slight the sacrifice that we may send the wheat to our soldiers and Allies who so much need it.

Cherry Paste—Select ripe, sweet cherries, place in kettle with two tablespoons of water, cover tightly and steam slowly until enough water forms to allow them to cook slowly without burning. Boil until soft, rub pulp thru sieve, return to fire and cook slowly until very thick. Weigh pulp, add half its weight in sugar, let it dissolve, return to the fire and boil until the paste is so thick that when a spoon is passed thru it the mass does not run together immediately.

Pour fruit in half-inch layer in flat dishes rubbed lightly with salad oil and dry in a draft for two days. Cut in squares or fancy shapes, place on wax paper, sprinkle with granulated sugar, leave in draft two days, dip in sugar and pack in tin or wooden boxes lined with paper and with paper between the layers of paste.

Another method of preparing the paste is to dry slowly in the dryer and pack away in jars without sprinkling with sugar. With plums, peaches, pears, apples and figs proceed as with the cherries. Fancy varieties of paste can be made by adding finely cut citron or candied peel.

For an attractive bonbon arrange pastes of different fruits in layers when nearly dry. Cut in half-inch strips like a slice of layer cake and dry.

Cold Meats for Picnics

Summer days call for cold meats for supper and for picnics. Don't depend on tin cans for these meats. You can prepare delightful dishes without drawing on the national reserve of canned meats. It is a good plan, too, to pile up your own reserve of home canned meats.

Pickled Tongue

Boil a fresh tongue by placing it in hot water, let come to boil and boil gently for three hours or until tender. When cooked, remove from water, skin, put back into water and let get cold. Slice in thin slices, put one layer of sliced tongue in bottom of an earthenware crock, then one layer of sliced onions, a few thin slices of lemon, salt, pepper, a little sugar and mixed spices. Repeat until all material is used up, having the onion and lemon on top. Cover all with vinegar. If vinegar is too strong, use two-thirds vinegar and one part water.

Pressed Beef Tongue

1 beef tongue
1 veal shank
cayenne
salt
pepper
2 tablespoonfuls catsup

Boil tongue and veal shank together for three hours, putting it on to boil in cold water. This will draw out all of the gelatin of the veal bone. When tender, skin the tongue, cut in slices or put thru a coarse meat grinder. Add salt, pepper, cayenne and catsup, put into a mold and cover mixture with the liquid in which it has been boiled. When cold, turn out on a platter, slice and serve.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2485—The fullness of this dress is held in at the waistline by elastic or a drawstring, but it may be gathered under a belt if preferred. The sleeve may be finished in wrist or elbow length.

The right front is shaped at the closing. Percale, drill, gingham, chambray, linen, lawn, repp, poplin and galatea may be used for this model.

The pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 7¾ yards of 27-inch material. The dress measures about 2⅜ yards at the lower edge.

2492—You could have this of batiste or lawn in flesh color, pink, blue or beige, or white with collar and cuffs of a pretty color. This style is also nice for crepe, taffeta and linen. The cuff has a pretty turnover.

This pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 3 yards of 36-inch material.

2489—This is an excellent model for wash fabrics such as linen, gingham, chambray, voile and khaki. It is also good for serge, taffeta, foulard, poplin, corduroy, gaberdine and broadcloth, for plaids, checks and mixed suiting.

The pattern is cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 requires 3¾ yards of 36-inch material. The skirt measures 2 yards at the foot.

2234—Gingham, seersucker, percale, drill, linene and linen are good for this style. The apron is adjusted on the shoulder and the fulness at the waistline may be held by the belt, if desired.

The pattern is cut in 4 sizes: small (32-34), medium (36-38), large (40-42), and extra large (44-46) inches bust measure. Size medium requires 4¾ yards of 36-inch material.

DAISY FLY KILLER placed anywhere, attracts and kills all flies. Neat, clean, ornamental, convenient, cheap. Lasts all season. Made of metal, can't spill or tip over; will not soil or injure anything. Guaranteed effective. Sold by dealers, or 6 sent by express prepaid for $1.

HAROLD SOMERS, 150 DeKalb Ave., Brooklyn, N. Y.

Methods of Harvesting and Threshing Pintos

(Continued from page 5)

perimental work both show that if the beans are allowed to become completely ripe on the vine heavy loss occurs from shattering. A good rule to follow is to harvest when the pods are turning yellow but have not yet dried out; at this stage there will usually be about half of the pods yellow ripe and a few still showing some green, providing the beans are ripening uniformly. When cut at this yellow ripe stage, the beans will ripen up in the shock during the curing process and the loss in weight by drying out is very much less than the loss in weight thru shattering, if the beans are allowed to become too ripe.

Experience shows in the case of the pinto beans that they may be cut while the pods are still green if the bean is plump and well formed, that is, completely developed but green in appearance.

Care of Harvested Beans

The beans thus cut with the harvester should be made into small shocks. Experience has shown that a small, flat shock, just large enough so that it can be completely inverted or turned over with the pitchfork in the hands of a single man, will be blown about less by winds and enables the beans to be cured up in a much more perfect condition than larger shocks. These small flat shocks are not injured so much by wet weather as they can be dried out easily and cheaply by turning the bunches. They are close to the ground and do not blow badly. Being small and thin, shocks of this character dry out very rapidly in the curing process. Consequently they can be stacked and thrashed in a much shorter period than if larger shocks are used. If it is impossible to thrash them when cured, it would be far better to stack them in neat stacks so as to prevent loss by blowing, discoloration from weather conditions, and also to leave the land free for cultivation. If the beans have been properly shocked, there will be very little shattering in stacking, as stacking can be done early in the day, or loss may be prevented by covering the hay rack or bean rack with canvas. In building a stack a bottom should be made with straw and the stack should be topped out with straw and weighted. If straw or millet is not at hand to be used for this purpose, a stack cover of canvas or corrugated iron will be advisable, if any considerable time is to elapse before thrashing.

The harvesting process, together with summer cultivation, leaves the land in excellent shape for fall planted crops, such as wheat, or even for spring planted crops, as plowing is not necessary after the tillage given beans.

Thrashing

Beans split very easily unless handled with care. Split beans are docked on the market. Consequently tools should be used which split the minimum of beans. It is for this reason that the regular bean hullers or bean thrashers should be used for thrashing the crop.

There are a number of manufacturers having bean hullers on the market. It is possible by using some of the modern attachments to thrash beans with the regular grain separator. This should not be done unless a bean huller is so expensive, acreage considered, as to make its use inadvisable. Where the grain separator is used to thrash beans, special attachments are put in and the cylinder is run at a very slow speed. Usually all the concave teeth with the exception of one row are removed.

Where a grower has only one-half acre, or one acre, it is sometimes easiest and cheapest to thrash out his beans with a flail. Fifteen to eighteen hundred pounds a day can be thrashed out in this way by a single man.

Very few of the thrashing machines on the market will properly clean beans for market. Consequently machines called bean cleaners have been devised to clean up the beans ready for marketing. If any considerable acreage is grown it would pay to have a bean cleaner to clean the thrashed beans before they are put on the market. Where only small acreages are grown, neighbors might well co-operate in the purchase of a cleaner, as one cleaner would do the work for several small growers.

The Grange

Offices 415 Charles Block, Denver
C. W. SWAYZE, Editor

Officers

JOHN MORRIS, Golden, Colo., Master.
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C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 415 Charles Block, Denver, Business Agent and Secretary.

No single organization in the county, it is believed, has contributed as many men to the military service of our country as the Progressive Grange No. 324 of Konantz, Colorado, an organization of farmers. Volunteering of young men of that neighborhood, all belonging to said lodge, began soon after the war began. Seven young men have volunteered, as follows:

Raymond Nichols, in France.
Guy Gregory, Fort Worth, Texas.
Jay Fleming, on way to France.
Milton Dean, in France.
Milton Gillespie, in France.
Carl McGowen, in France.
Eddie Gillespie, Fort Sill, Okla.
Neil McGowan, also member of the Grange, was in the last draft.

What's the matter with Progressive Grange No. 324 They are all right.—Two Buttes Sentinel.

The following is from the National Grange Monthly:

"There is at the present time one supreme test by which every man and every woman in this country must be measured, and if they fail in that one tremendous respect, it very little matters what they are or what they have done in other ways. War may set up harsh standards, but in this case the standard is righteously just.

During its 50 years of existence the Grange has rendered magnificent service to the rural people of the land; has advanced the cause of agriculture, of education and of citizenship; has been a great factor towards moral progress and individual and civic righteousness; has put courage into the disheartened, hope into the fearful, strength into the weak; and has rendered a half century's service to humanity, in directions varied and magnificent. Yet in spite of all these achievements, if the Grange had failed its country in the present crisis; if it had wavered one whit in its Americanism; or if in the slightest degree it had permitted its influence to count on the side of disloyalty within its ranks, then every achievement of the Grange for 50 years were as nothing—in the supreme test of all, it must either measure up completely or be declared found wanting.

Such are the standards of war, and these we must all acknowledge. The test we are willing to apply to the Grange must be accepted by every other organization, and by every individual, within the boundaries of this American Republic, and it is both just and fair to apply it to the uttermost limit. Pleading of other or former virtues won't do; subterfuge and quibbling, and excuses won't do: There is no such thing as being mostly loyal and part something else. This has been the fact that America has been slowest to realize, but she has come to her senses at last. From now on there is one supreme test, and everybody must meet it.

Tremendous Insect Damage

Insects comprise fully fourth-fifths of the animal kingdom, and the enormous number of 400,000 species are in existance. The losses they cause run yearly into the millions of dollars' worth in the United States alone. The Codling moth, for instance, levies an annual tax in this country of twelve million dollars. The fruit interests are considered by experts to lose in the same length of time at least $66,000,000. As for corn, wheat and cattle losses, these far exceed the figures given. It goes without saying, that the latest knowledge of preventive methods is as essential to the farmer and stockman, as well as the orchardist, as the tools of his trade.

It is for this reason that we wish to call attention to a new volume, one of the excellent series of Lippincott's Farm Manuals, which handles the question of insects in great detail. The title is, "Injurious Insects and Useful Birds," and the author is F. L. Washburn, M.A., of the University of Minnesota, formerly Minnesota state entomologist. The work is the result of twenty-one years of experience in economic entomology. Every farmer should procure a copy, no matter what his particular line of crops, because every phase of insect life in relation to agriculture is handled. The gardener, the nurseryman, the orchardist, the householder—all are interested, as well as the wheat grower, the bean grower, the alfalfa grower and the poultryman and livestock producer, for insects attack livestock as well as plants. J. B. Lippincott & Co., Philadelphia, Pa., are the publishers, and the cost of the volume is $2 net.

"If U fast U beat U boats;
If U feast U boats beat U."
—English Placard.

Every pound of sugar means cargo space, and cargo space is precious now.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

In answer to a question regarding the fattening and marketing of broilers: Farmers are not fixed to fatten, dress and successfully ship dressed poultry any distance. This requires special apparatus, special feeding, ice for shipping, etc. However the poultryman or farmer catering to family trade should be equipped to finish (or fatten) his stock, dress it properly, pack it and get it to his customers in good condition.

Fattening with whole grain the fowls confined in small yards has not been found satisfactory, the gain in weight being small and the finish not the best. Really crate feeding is a finishing rather than a fattening process, the improvement in appearance and quality being of more value than the gain in actual weight. The Missouri Agricultural College gives the following interesting data regarding some experiments:

That birds confined in small pens and fed shelled corn for three weeks made gains of less than one-fifth of a pound each.

That birds fed shelled corn and meat scrap for the same length of time made slightly better gains.

That birds fed shelled corn and wheat did not make as good gains as the lot fed shelled corn alone.

That birds fed shelled corn, wheat and meat scrap did not make as good gain as those fed shelled corn and meat scrap.

That birds fed corn meal and meat scrap moistened with water made a gain of two-fifths of a pound each.

That birds fed on corn meal mixed with buttermilk made a gain of one-half of a pound each.

Fattening Crate

A good crate unit is made 6 feet long, 20 inches wide and 20 inches high; it should have two partitions (tight), making three compartments each 2 feet square. The top, back and ends should be of one-inch mesh poultry netting. The floor should be of heavy wire, one-inch mesh to allow the droppings to fall thru into a tray which should be made removable to facilitate cleaning. Needless to say, cleanliness is necessary to success. The front should be made of lath and placed 2 inches apart, allowing the fowls to reach thru to eat. The feeding should be done in a trough, running the entire length of the crate; it should be made of 1x4 stuff V-shaped. There should be partitions in the trough. Five to six grown fowls may be kept in each pen; nearly double the number of young chicks can be comfortably kept in each. The crate should be placed in a cool, quiet place, somewhat darkened. Quietness is essential to profitable gain.

The Feed

The feed should be finely ground. The best feed may not be the most profitable under present conditions. So each feeder must be a law unto himself, to a certain extent. Nearly all the feed formulas given by experiment stations call for flour. Of course flour is out of the question at the present time and rolled oats, another popular feed, is prohibitive in price. Corn meal, or finely ground corn makes up the bulk of most rations recommended and must probably prove so in the mountain country; taking into account our crops and prices of obtainable feeds, a ration as follows would seem very good; it can be altered to suit individual conditions:

20 lbs. fine corn chop or corn meal
5 lbs. ground oats (hulls sifted out)
5 lbs. shorts,

or

20 lbs. fine corn chop or corn meal
5 lbs. ground barley (hulls sifted out)
5 lbs. bran.

Milk should be used in preparing this mixture, preferably buttermilk. The mixture should be of the consistency of thin pancake batter. Fowls should not be fed for several hours after being placed in coops; then rather lightly for a day or two, gradually increasing the amount until they get all they will eat up clean. No feed should be left after a feed, any not eaten quickly should be removed. These feeds should be given early, at noon and late in the evening. No water need be furnished. Ten days to two weeks should finish a fowl. Fowls of a size, age and sex should be kept together.

Visiting at the Home of Majesty's Feather Lad

(Continued from page 4)

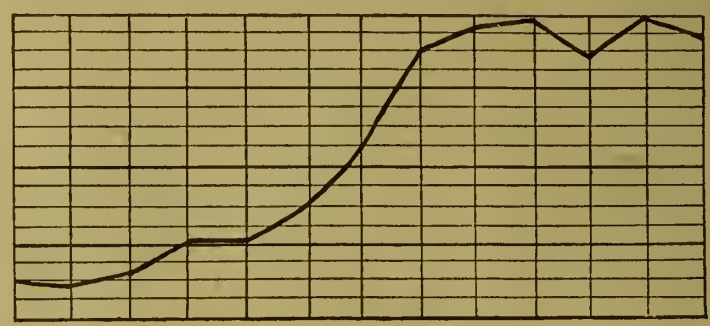
Peach, one of Mr. McClenahan's own breeding, who has a record of 530 pounds of butter as a 2-year-old, and two daughters of Financial Countess Lad, who are doing big things in production and are fine show cows, as well. The herd, young stuff and all, numbers forty head and every individual is proof of the well-known char- its offspring the type and high pro- its offsuring the type and high producing qualities of the parents.

Like other Jersey breeders, Mr. McClenahan is preparing for the after war period, when not only all America, but Europe as well, will witness expansion of the dairy industry. Already there is a commission in America from Europe, seeking out sources of good stock to replenish the Jersey herds of the Old World, which have been destroyed by the war. This demand is putting the breeders up on their toes. The American Jersey Cattle club will guard against any unwise commercialization of this demand.

Purebred Duroc Jersey hogs do their share in converting feed into food on the McClenahan farm. There is a fine crop of pigs coming on and they are doing well on skim milk, ground barley and alfalfa.

Electricity from a high power line passing the place lights up the farm house and the dairy barn, the hay mow, the calf barn and other buildings, and city water is supplied at meter rates from a pipe line owned by a corporation composed of Mr. McClenahan and his neighbors. This line is connected with the Greeley system. No conveniences are lacking, the farm house having furnace heat, shower bath and sewage system. The dwelling is occupied by the farm manager. Mr. McClenahan still lives in Greeley, but his herd is taking so much of his time that he may soon be compelled to move to the country. His heart is with the cows and he feels that they are worth his entire interest. The breeding game is an absorbing one, demanding of the breeder all that is in him, if the work is to be consistently done.

Buy War Savings Stamps.



Why live stock prices go up and down

WHEN there is more dressed meat on the market than there is consumer demand for it, meat and live stock prices go down.

But when the consumer demand for meat is greater than the supply, meat and live stock prices go up.

This is the law of supply and demand. It is the law that determines the prices the producer gets for his cattle.

* * * *

Between the producer of live stock on one hand and the consumer of dressed meat on the other hand is the service of the packer.

The packer turns the live stock into dressed meat and by-products and then distributes them to the retailer.

Out of every dollar the packer receives for this meat and by-products he pays 90 cents, approximately, for the cattle.

The remaining 10 cents on the dollar must pay for dressing, freight to market, operation of distributing houses, and in most cases delivery to the retailer.

Out of what is left must come the packer's profit. For Swift & Company during 1917 this amounted to a net profit of ¼ of a cent per pound of beef. On *all* products, it was only a little over half a cent per pound.

A reasonable profit margin is necessary to enable the packer to operate without endangering the efficiency of the business and its value to the producer as a marketing agency for live stock. Complete elimination of these profits would have practically no effect on the farm prices of live stock nor the retail prices of meat.

Swift & Company will gladly co-operate in the carrying out of any national policy that will tend to steady the prices of live stock and meat.

Swift & Company, U. S. A.

A nation-wide organization with more than 20,000 stockholders

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

640-ACRE HOMESTEADS—BOOKLET. F. Duff, Casper, Wyo.

WANT TO HEAR FROM OWNER OF FARM OR fruit ranch for sale. O. O. Mattson, St. Paul, Minn.

GOVERNMENT LANDS—CALIFORNIA, OREgon. Booklet-stamps. Joseph Clark, Sacramento, California.

HOMESTEAD LAND RELINQUISHMENTS; good deeded farms; water, timber, good rainfall. Fr. Chancer, Westcliffe, Colo.

WANTED—TO HEAR FROM OWNER OF GOOD ranch for sale. State cash price, full description. D. F. Bush, Minneapolis, Minn.

DAIRY AND STOCK RANCH, 320 ACRES. Average $300 per month income; good market; $4,000 cash. Jacobs Dairy, Santa Fe, N. M.

I HAVE CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give description, location and cash price. James P. White, New Franklin, Mo.

FINE IMPROVED RANCH, 640 ACRES DEEDed, 800 acres leased, close in, private irrigation system, abundance of water, all level, good grass, $20 per acre. J. B. Nichols, Bristol, Colo.

ATTENTION, LAND SEEKERS—THE FINEST grazing and farming land in the state of Colo., from 20 to 50 miles from Denver. Can be bought at $15 to $25 per acre; good terms. Write us for particulars. The Parker Land & Cattle Co., Parker, Colo.

144 ACRES OF DEEDED LAND LOCATED 3 miles from town, under old established irrigation ditch, not bonded, all fenced, good house, stable for 15 head of horses, good well and cement stock tank, good cement cellar, lays good and good soil. Price $30 per acre. Also 160-acre school lease adjoining the above land at $200. J. R. Anderson, Ft. Morgan, Colo.

CHOICE SHEEP PROPOSITION—626½ ACRES, solid block; all high, dry, fine-laying cut-over grazing lands; fertile clay loam soil; first-class agricultural land when cleared; well watered; railroad station 1 mile. Market value $20 per acre. Our price for the tract $10.50 per acre.

1,400 acres of very choice land, both for agriculture and grazing; splendid sheep-raising proposition; well watered by several streams. Average distance 2 miles to railroad. Price $12.50 per acre.

We have other tracts in any size desired. Write for further particulars.

The E. L. C. Co., Dept. 49, Merrill, Wisc.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

BABY CHICKS—BARRED ROCKS, REDS, White and Brown Leghorns. 100, $12, prepaid; 40, prepaid, $4.75. Safe arrival guaranteed. Booth Hatchery, Clinton, Mo.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—MILKING SHORTHORNS. W. A. Wight, Las Animas, Colo.

HOLSTEINS—REGISTERED BULL CALVES, Johanna and Pontiac sires. Prices right. C. W. Curtis & Sons, Sedalia, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Held, Sterling, Colo.

FOR SALE—HIGH-GRADE HOLSTEIN HEIFER calves, 6 weeks old; best breeding; $30 prepaid. Herbert Taft, Whitewater, Wis., Rt. 2.

FOR SALE—WE HAVE 6 REGISTERED HEREford bull calves, Anxiety breeding, born August-September, 1917. The good, heavy boned kind, price $125.00. Also four coming two-year-old bulls, same breeding, price $200.00. J. O. D. Ranch, Aroyo, Colo., on U. P. R. R.

THRIFTY HOLSTEIN CALVES, EITHER SEX, practically pure-breds from high producing dams and registered bulls, five to seven weeks old, $30; express prepaid to your station. Safe delivery and satisfaction guaranteed. Also 50 registered cows and heifers and 100 high grade young cows and two-year-old heifers. Magee Dairy Farm, Chanute, Kans.

HOGS

BIG TYPE POLAND CHINA PIGS; REGISTered. Barney Bros., Haswell, Colo.

REGISTERED BIG TYPE POLAND CHINA hogs. B. F. Nottingham, Des Moines, New Mex.

REGISTERED DUROCS—I HAVE A FINE LOT of boars and gilts about two months old. They are all sired by my Pathfinder boar and from my best sows. $15, including registration papers and crating. A few registered Tamworths; they are a little older and will cost a little more money, but they are just as fine as grow; also a two-year-old Percheron stallion that is right in every point. Price, $300. Dr. Frederick W. Culver, Longmont, Colo.

JACKS

FOR SALE—AN EXTRA GOOD HEAVY BONED registered Jack, seven years old. Price, $600.00. J. O. D. Ranch, Aroya, Colo., on U. P. R. R.

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC JERSEY HOGS—THE BIG BONED, large, prolific type. Young pigs by the Senior Champion boar at the last Denver Show, Orion Cherry King 15th. Did you see our grand champion barrow that sold at 50c per pound? J. O. D. Ranch, Aroya, Colo.

SEEDS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

PLAINVIEW NURSERY FOR SALE—ONE OF the best paying businesses in the country. A good stock of trees and a good trade. Well equipped for growing nursery stock. Plainview Nursery, Plainview, Texas.

LUMBER

LUMBER, LATH, MILL WORK. GET OUR direct-to-consumer prices before building. Catalog, plan book free. Contractors Lumber Supply Co., 443 Lumber Exchange, Seattle, Wash.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

FOR SALE—ENTIRE STOCK OF GARAGE tools, equipment and supplies. Claude Roesch, Quinter, Kans.

FOR SALE—WELL DRILLING RIG, EQUIPPED with gas engine, 350 feet capacity, good order. For particulars address P. S. Hodgkins, 3905 Quitman St., Denver, Colo.

FORDS CAN BURN HALF COAL OIL OR cheapest gasoline, using our 1918 carburetor; 34 miles per gallon guaranteed; easy starting; great power increase; attach it yourself; big profit selling for us; 30 days' trial; money-back guarantee; styles to fit any automobile. Air-Friction Carbureton Co., 469 Madison St., Dayton, Ohio.

HELP WANTED

OPERATIVES WANTED; EXPERIENCE UNnecessary. We instruct you. Travel. Make secret investigations. Salaries, expenses. Hartley Detective Agency, St. Joseph, Mo.

I AM AN EXPERIENCED FARM AND STOCK manager. Thoroly experienced in all branches. Am open for a position. Address, R. S. N., care of Western Farm Life.

MEN, WOMEN, 18 OR OVER, WANTED IMmediately for U. S. Government war positions. Thousands clerical positions open, $100 month. Easy work. Write immediately for list positions. Franklin Institute, Dept. T172, Rochester, N. Y.

A Model Community School in the Mountains

(Continued from page 3)

trict with one teacher and an average of 6 pupils.

At the opening of the term on September 2, 1917, there were 42 pupils enrolled in the consolidated school, of which 33 are in the lower room with grades 1 to 5. A stone teacherage on the 40-acre tract owned by the district has since been completed. This building is 20 by 34 feet, with an upper story. As the district did not have funds to erect the building, it was put up by an association composed of the residents of the district, who agree to be jointly liable for the cost ($1,500) and pay $10 per year apiece to cover interest charges. On completion the building was leased to a party for the school term, and he boards the teachers and also operates the telephone switchboard and is the postmaster, handling a tri-weekly delivery from Hayden. He also conducts a small general store. Two log cabins have been built on the school 40 acres by residents of the district who wish to live near the building with their children during the winter months.

The aim of the Elkhead school is to provide a place and means for the education of the children of the district equal in facilities to any school and with methods and courses adapted to the needs of the community it serves. It is also serving as a natural community center, and being supported and run by the people of the district, is the center for religious and social affairs, as well as being the political and economic heart of the community.

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred

We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Several cars extra good yearling bulls for sale. Write us for prices and detailed information.

OFFICES

First National Bank Building, Cheyenne, Wyoming
406 New Live Stock Exchange Building, Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager

WM. J. ROSSMAN, Ranch Superintendent JAMES C. ADAMS, Salesman

HEREFORDS FOR SALE

Only one young Hereford bull left for sale, Heir's Successor, No. 614072, dropped September 30, 1916. Ready for service. Sired by Heir's Anxiety, No. 359788, the sire of Morris, Grand Champion steer at the Western Stock Show, 1918, who sold for over $800; dam, Winifred, No. 228963, a daughter of Keep On. This is a strong, growthy young bull, not a show bull in all respects, but will make a good herd sire for a small purebred herd, or will fit in well on the range. Price, $400.

We also offer a nine-year-old cow, Gipsy, No. 316045, with a good September bull calf at foot by Heir's Anxiety. Price, $350, if taken at once. Rebred to Heir's Anxiety. Calf alone will be worth the money by fall.

ANIMAL HUSBANDRY DEPARTMENT

Colorado Agricultural College FORT COLLINS, COLO.

High Class Jerseys and Durocs

"THE WESTERN HOME OF THE MAJESTY'S"

Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the other day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, better get a Majesty bull calf while the getting is good. I have them. Also a few fall boars, splendid good ones, at right prices. I will have something still more interesting to tell you very soon about Majesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

$25 HOLSTEINS $25

Five weeks old 15-16 pure, mostly white, $25 crated.
Two months old, $40.
Registered Bulls, two months old, best quality, $70.
Two-year-old springers, $125.
Cows crated, $150. Car lots write us.
Buy the best, it pays in the end.

Dr. J. A. Roberts Stock Farms
Oconomowoc, Wis.

FOR SALE
LARGE TYPE POLAND CHINA GILTS

These gilts are sired by or bred to SMOOTH GIANT by SMOOTH BIG BONE.

COLUMBUS BIG GUN, by COLUMBUS DEFENDER and McLaughlin's BIG CHIEF, by MOUWS BIG CHIEF.

C. W. McLaughlin
Olathe, Colo.

NATIONAL WESTERN
First Annual
Ram Sale
DENVER
Sept. 3-4-5-6, 1918

Imported and Domestic
Stud Rams Range Rams
REGISTERED EWES

An Opportunity to Secure Breeding Sheep of Quality

Rambouillets Hampshires
Shropshires Cotswolds
Corriedales Lincolns
Oxfords Karakuls

Under the Direction and Supervision of
THE WESTERN STOCK SHOW ASSOCIATION

For Particulars Address the Secretary
FRED P. JOHNSON
Union Stock Yards, Denver, Colorado

DRAFT HORSES AND BEEF CATTLE

I can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

Goodwin Jersey Farm

Has for sale two bulls 7 and 9 months old. Excellent type and breeding. Priced very reasonable. Write for photo and breeding.

W. W. Goodwin, R. F. D. No. 2,
Canon City, Colo.

HOLSTEIN CALVES

Choice, high-grade, beautifully marked heifers or bulls, 5 weeks old, $20.00 crated f. o. b. cars. Write
W. C. KENYON & SONS, Box 39, Elgin, Ill.

Shorthorn and Polled Durham Cattle

Valentine's Last, X12316, 452008 at head of beef herd. Claywood White, 427350 at head of milk type.

STATE INDUSTRIAL SCHOOL
Golden, Colorado

THE RELIABILITY OF EVERY ADVERTISER IN WESTERN FARM LIFE IS GUARANTEED

Cleveland Tractor

A Tractor That Does The Things You Want a Tractor To Do

The Cleveland Tractor is not confined to a narrow field of service. It does the things you want a tractor to do.

It plows, it harrows, it plants, it reaps. Its great power and small size enable it to work satisfactorily in difficult, awkward places. It works efficiently under and among small trees, close up to fence corners, around boulders, on hillsides, over ditches, gullies and rough ground.

With 600 square inches of traction surface, it goes through sand, gravel, gumbo, mud and even wet clay without packing the soil.

The Cleveland Tractor lays down its own tracks, crawls on them, and picks them up again as it goes along—just like the famous war "tanks."

It does *faster* and *better* work than was possible before. It plows 3½ miles an hour—eight to ten acres a day—equal to the work of *three* good men with *three* 3-horse teams under favorable conditions.

But the Cleveland is *far more than just a tractor.* With pulley and belt, it will saw, cut ensilage, pump—and do the things you demand of a stationary engine.

In addition it can be used for hauling the manure spreader, for grading, dragging logs and pulling road machinery.

It develops 12 horsepower at the drawbar and 20 horsepower at the pulley. Yet with all this power the complete machine weighs less than 3200 pounds, and can be housed in less space than is required for a single horse.

Rollin H. White, the well-known engineer, designed the Cleveland Tractor. It is built under his personal supervision, and is constructed for long service. The track sections are joined with hardened steel pins which have their bearings in hardened steel bushings. Gears are protected by dirt proof cases and are of the same high quality as those of the best trucks. The finest materials are used throughout.

Farming today demands the most comprehensive machinery obtainable—machinery that is useful in doing *many* different things—machinery that is adaptable to widely varying conditions.

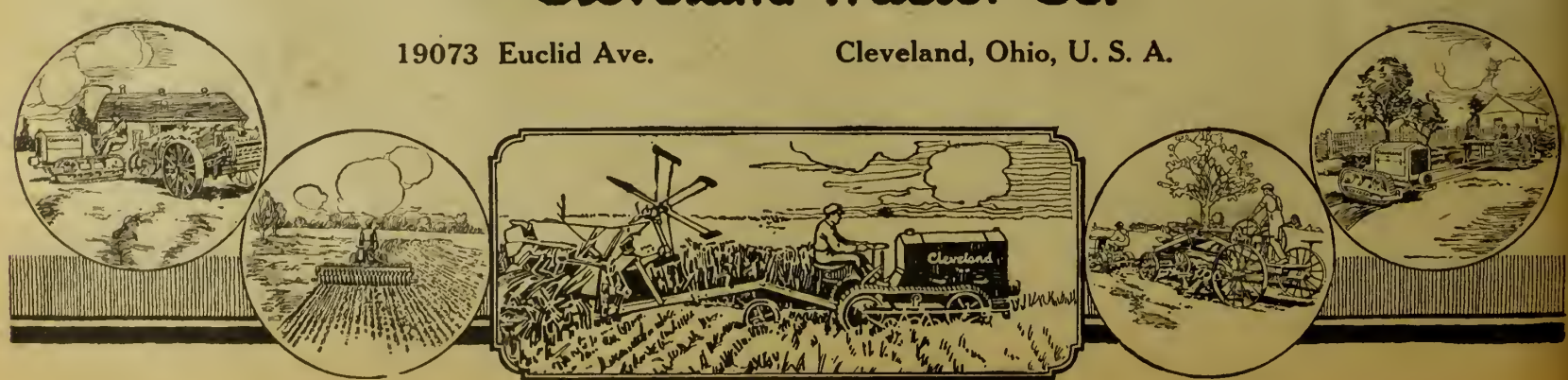
Thousands of farmers are looking to the Cleveland Tractor in the present crisis. And the Cleveland is meeting the demands—severe as they are—and is *making more money* for its owners.

It is truly the tractor that does the things you want a tractor to do.

Nearly every farm can use one or more Clevelands to speed up production and cut down costs. Write *today* for complete information and the name of the nearest Cleveland dealer.

The Cleveland Tractor Co.

19073 Euclid Ave. Cleveland, Ohio, U. S. A.



WESTERN Farm Life

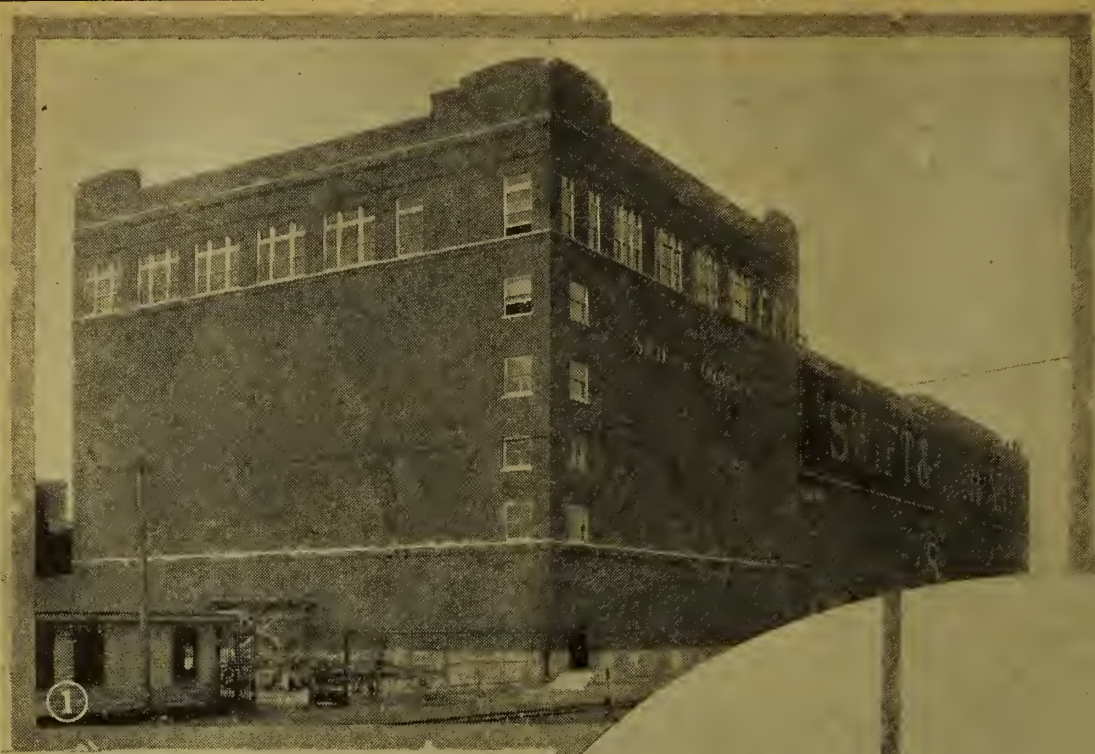
Vol. XX | Denver, Colorado, August 15, 1918 | Semi-Monthly

Case 10-20 Kerosene Tractor Pulling Three-Bottom Plow on Stubble

DENVER

LIVE STOCK MARKET AN UNLIMITED DEMAND FOR ALL KINDS OF LIVE STOCK

THE MODERN SHEEP MARKET OF THE WORLD



Coming Events

National Western
Ram Sale

September 3, 4, 5 and 6, 1918

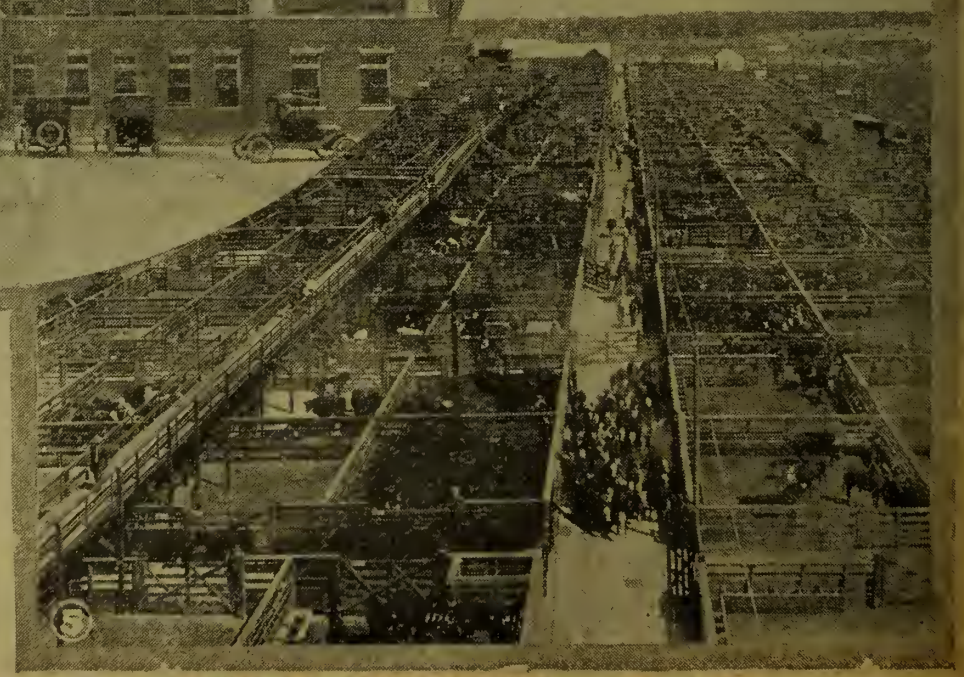
The Quality Sale of the Year

National Western
Stock Show

January 18-25, 1919

For Particulars Address
FRED P. JOHNSON, Secretary
Stock Yards Station, Denver, Colorado

1. Swift & Company Packing Plant, Denver.
2. Colorado Packing & Provision Company (Armour & Company), Denver.
3. New Double-Deck Concrete Sheep Pens, Denver Union Stock Yards
4. New Live Stock Exchange Building, Denver Union Stock Yards.
5. Partial View of Cattle Pens, Denver Union Stock Yards.



DENVER
The Live Stock Center of the Rocky Mountain West

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Entered at the Denver Postoffice as Second Class Matter

WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, AUGUST 15, 1918 | Number 16

Agricultural Tour of El Paso County Highlands

SOLDIER-RANCHMAN BACK ON FURLOUGH SPEAKS TO HOME FOLKS

ALVIN T. STEINEL

EVERY ounce of energy, every available dollar, every hour from sunrise to sunset, is being put in y the farmers to produce food, and very farmer knows that he is doing for his country. I had occasion gain recently to see how unreservedly e agricultural resources of Colorado re lined up behind the government. his is the farmer's war. He has ade it his battle. His sons are in e thick of the fighting, and he has personal interest in providing food r the army and for the people—soliers and civilians—of the Allied naons. These observations are made nent a farm tour in El Paso county, rranged for the double purpose of howing townspeople what their rmer friends were doing, and the rmers themselves what was being one by their neighbors in making eir work for the nation more efcient. On the road from Denver to olorado Springs we saw women orking in the hay fields. One was the mower seat, another drove the ke. Two men attended to the eavier work of stacking.

"Somebody's gone to war out of at family," was the comment. The ght is very common in the mountain ates. Women are everywhere taking e place of men; and that applies the farms as well as to city emoyment.

The striking incident of the El Paso unty agricultural tour was the presce of Lieutenant Charles Cheese of e Aviation Service. The Cheese nch, near Peyton, is an old-time roperty. There are two grown sons nd with hundreds of acres to look ter and help scarce, it looked as tho would be impossible to spare anyody. But the call came, nd it was up to Clarence nd Charles to decide who ould answer and take p arms, and who should ay on the ranch and help roduce food. Both wanted go into the service. ow the decision was ached does not matter, ut it fell to Charles to in the army and to Clarce to look after the ops. It so happened that harles, after six months' aining, was granted a n-day leave, to see the lks again before going to rance and help them with e harvest. It was a fine ing for all the folks and fine thing for Lieutenant harles Cheese that he me home just when he d—the day the neighrs gathered for the farm nd-up. Wheat cutting as in progress, binders d headers being in the lds. But we will pass at over for the present d go into the pine woods here the tour ended in a sket dinner and speechaking. There were some siting speakers, but the eech of the day, and it as an impromptu effort—as made by Lieutenant eese. He looked every ch the athletic soldier at he is. With a track cord and football honors Colorado College, rounded out by healthy ranch life, the young officer made a fine physical showing, but the mental pleasure that his neighbors got from his intimate touches of humor on the experience of a budding aviator is the thing that will linger in memory.

He told of his first flight in control of the machine. The instructing officer took him up 3,000 feet—he felt good up there so far above the Texas ground; very much at home, in fact, the higher he got, for the home ranch lies 7,000 feet above sea level, so rarefied atmosphere was no new sensation. There was, however, a peculiar feeling when the officer, on reaching 3,000 feet, turned the machine over to the student.

"I took it, but I did not know what I would do with it," was Lieutenant Cheese's comment. He got thru the first flight with the instructor, and then he told of his first solo flight, explaining that it was customary on that occasion to have an ambulance at hand with the surgeon on the front seat. As the machine ascended and the student chanced to look down, he wondered just what good the doctor could do him way down there! Thus he went on making light of the fact that for months past he had daily risked life and limb to perfect himself in aviation, that the folks at home, to whom he was talking, might have the benefit of a better world to live in—a world without Huns.

"Down there in the training camp we feel just the way I used to feel in a football game. I knew that the school was behind us. We know that you are all behind us, and we shall go into the fight with the football spirit. We're going to deliver!"

A mighty cheer went up from the home folks. It was a solemn occasion there in the big pine forest, a re-dedication of all of us to the country's cause. There wasn't a thought in any heart that was not unreservedly loyal; not a murmur of discontent. Our hats were off and our hands extended to the young officer from the ranch who personified the lighthearted, cheerful, resourceful, singing, fighting Yankee, ready for the Big Game, with the rooters behind him to a man. And to think that some of us, only a few years back, criticised the colleges for the "brutal" game of football! And now it's that game above all others and that training in team work, that ability to think and act quickly, that utter disregard of all opposition, that is giving us such splendid examples of trained manhood as we saw in this transformed young ranchman, now an officer in the army that has won the war.

There was a talk on "Birds" by Dr. W. W. Arnold, "the Bird Man," from Colorado Springs. He begged the farmers to be kind to the birds that protect them from insect damage and told, in a most interesting way, of the habits of these insect-eaters and of their beneficial effect on agriculture. He made a special plea for the wild dove, urging farmers not to grant shooting permission to the sports from town who come out during the open season for a few days of dove slaughter.

The tour started from Colorado Springs at 9 a. m., July 26th, County Agriculturist W. H. Lauck leading. In other years autos of city people predominated, but this year only about one-third of the thirty cars were city owned. The others were from the farms, and loaded with farmers eager to see what progress had been made along certain lines in the year. There were two objectives—two definite things to learn. These concerned the progress of certain varieties of wheat and rye on which the farmers are standardizing.

Of course, when one goes to El Paso county to learn something about wheat growing, there is one farm that must not be overlooked—the Bradshaw ranch. For 30 years Mr. J. M. Bradshaw has been growing wheat at 7,200 feet under the natural rainfall. His farm practice has resolved itself into two or three fundamentals, chief of which is summer fallowing. That is, a portion of his wheat ground is always plowed in the spring and then cultivated thru the summer to conserve moisture and kill weeds. He finds this system of alternate cropping and fallowing gives him heavy yields consistently. Last fall he did break away from this plan on one field because of the insistent demand for more bread grains. He sowed wheat in the stubble and the crop is as expected—about half that on fallowed land.

Mr. Bradshaw has developed a variety known as King of Winter, which in his best yielding wheat. He follows the practice of head selection in improving his grains. When he hears of some new strain that is well recommended he gives it a trial. We saw, for the first time in Colorado, the newly developed Kanred, bred by the Kansas State Experiment Station and put out for the first time in that state two years ago. Mr. Bradshaw's planting of this variety showed heavy heads and a good stand. The Improved Turkey Red, which is popular on the mesas of El Paso county, looks good to him, as it does to other growers of the district, and there is no sentiment for changing to Kanred at present.

"Stick to the tried and proven varieties," is the advice of County Agriculturist Lauck. Conditions are peculiar in these higher grain-growing areas, and no new crop is accepted on the advice of an experiment station. It must show its worth in the locality before it is adopted.

Mr. Bradshaw came prominently before the public in his exhibits of wheat at the International Dry Farming Congress several years ago, when that organization still held its sessions in the semi-arid region, where it belongs. He has grown big crops of wheat some years almost wholly on stored moisture. The writer recalls visiting

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Upper View—Some of the Autos Lined Up on the Bradshaw Ranch, Ready for Inspecting the Fields of Wheat
Lower View—Field of Petkus Rye on the K. K. Ranch. This is Grown Without Irrigation

When Is the Right Time to Cut Your Alfalfa?

EXPERTS OFFER INTERESTING DIVERSITY OF OPINION

THAT there is no hard and fast rule to govern the time of cutting alfalfa is quite evident after an inquiry regarding the practice which prevails among growers in the irrigated districts of Colorado. Recently Prof. L. E. Call of Kansas State Agricultural College made public the results of some experiments conducted at Manhattan from which he drew the conclusion that early cutting weakens the plants and soon causes the stand to weaken and thin out, while later cutting is conducive to a good stand of vigorous plants. These conclusions are contrary to the prevalent opinion, based on other experiments and much practical farm observation, that delayed cutting is dangerous because it takes the new shoots and thus checks the growth of the next cutting.

Commenting on the recent experiments, Prof. Call says:

"Alfalfa should not be cut for hay under ordinary conditions, until the plant is well in bloom. There is more danger of injuring the stand of alfalfa by cutting the crop too early than by allowing it to remain on the field too late. There is a general opinion that alfalfa is injured if cutting is delayed until the undergrowth, which starts from the crown, is high enough to be cut off when the crop is mowed. There is very little evidence from experimental work that has been done at this station to substantiate this idea. It has been found, from the standpoint of the vigor of the plant that the longer cutting is delayed the better. Of course, the quality of the hay is poor if cutting is delayed too long, but it is the most satisfactory practice to permit the hay to remain in the field just as late as possible without injuring the quality of the hay. Where cutting is delayed the plant contains less water and cures more readily. Delayed cutting also adds to the vigor of the plant."

(This statement, appearing in the Kansas City Weekly Star, was followed by details of the experiments on which Prof. Call based his conclusions.)

Before presenting the views of Colorado authorities on alfalfa growing, it may be interesting to note what Kansas experience of the past was, as shown in the following from a bulletin by Prof. A. M. Teneyck, when he was in charge of alfalfa work at the Western Kansas station in Hays:

"When to cut for hay. Alfalfa should be cut for hay when it begins to bloom. Several experiments conducted at the Kansas Experiment Station and at other state experiment stations have shown that alfalfa hay has a higher feeding value when cut at an early stage of maturity, about one-tenth in bloom, than when cut in full bloom. It has also been observed that when cut at the beginning of the blooming period the next crop, under favorable soil and weather conditions, starts quickly and there is no delay in the growth of the alfalfa. It appears that as the alfalfa approaches maturity, the young shoots start again from the crown of the plant. If the crop is not harvested until in full bloom or past bloom, these young shoots may be cut off, thus checking the growth of the alfalfa and delaying the harvest of the next crop. By taking due care to cut alfalfa as soon as the new shoots start, it is often possible to secure an extra cutting in a season above what may be secured if the cuttings are made at a later stage in the growth of the crop."—A. M. Teneyck.

Prof. Teneyck's statement is directly contrary to the statement of Prof. Call. In fact, almost every experiment station bulletin, regardless of locality, that mentions the time of cutting alfalfa follows the practice quoted from the Teneyck bulletin.

One thing is apparent from a study of the opinions given above, and those from Colorado experts to follow, and that is, too much emphasis has been laid on the matter of watching the new shoots. There are other factors of equal importance, as Prof. Blinn points out. Prof. Kezer, however, emphasizes the importance of watching the shoots, not from the standpoint of vigor or fear of injury to the stand, but because of the shortness of the cropping season in northern Colorado and other high altitude districts. Delay in the first cutting shortens the time for the second and third crop and sometimes means loss of the third in such districts. In Kansas, or in the Arkansas valley of Colorado, with a longer season, there need be no such hurry to get the alfalfa cut.

Moline Universal Tractor Cutting Alfalfa With an 8-Foot Mower

Much depends, of course, upon whether the crop is grown with natural moisture or under irrigation. The irrigation farmer has the very decided advantage of controlling the crop in respect to moisture. If other work interferes with cutting at what he considers the best time, he can take a chance on a few days or a week and count on the water to push the next cutting along. The farmer in Central Kansas has to let nature take her course.

Following are views of Colorado men who have studied the crop:

What Specialist Blinn Says

In regard to the best time to cut alfalfa, it is my opinion that there are several factors that influence the point in question. First: There is a question whether one expects to make three, or four, hay crops during the season.

Second: The question of moisture the crop has had (and application of irrigation will determine sometimes when the crop has to be cut).

Third: The question of cutting the crop before the second shoots start is in a measure a theoretical argument, yet it is also based on some fact, in my opinion. I think it has been pretty well established that the root growth and development of alfalfa plants during the first season are much stronger where there is no clipping done. I think the diameter of the roots is nearly double where there is no clipping done. But where the plant has become well established, and there is plenty of moisture, I think one would see little difference in the ready start of growth after cutting, whether the crop was cut at a certain date or a week later. In warm weather with plenty of moisture the growth will be about an inch a day or more, regardless of the shoots being cut, but this will depend more on the question of moisture than anything else.

Take a specific case where a field of alfalfa has been irrigated early in the spring, the crop has begun blooming, the ground is dry and needs irrigation. I would irrigate and delay my cutting until the ground had dried sufficiently to mow even if I was clipping new shoots. On the other hand, if the crop was cut first, and the field watered after the hay was removed, the next crop would be delayed enough to overbalance any injury to clipping new shoots just starting.

The general practice in the Arkansas valley is to cut three crops on the large hay ranches. On some of the smaller farms four cuttings are made and when this is done the crops have to be cut before the bloom is very far advanced.

Frequent irrigation seems to get the maximum yields of alfalfa in this part of the state. It seems to be the general opinion with alfalfa growers that if the fields can be irrigated ten days to two weeks before cutting each time the next crop starts off immediately without a check. In fact, I think there is no stop. But if the field needs water, that will slow up growth which will make a new start when irrigated.

The question of good curing of the hay is very important in relation to when it is cut. If too succulent the hay is much more difficult to cure than if it is more matured, fairly well in bloom.

If the field has been properly watered I think the bloom is a pretty good guide to go by. The field should show quite a tinge of bloom.

The usual condition of the Colorado farmer is to irrigate alfalfa when the water is available, and cut his hay crop between runs some time in June for the first crop, and the latter part of July or first of August for the second crop, and about frost time for the last crop.

A few years ago there was urgent advice to clip alfalfa as soon as it was struck with the stem blight after spring frosts. After several years' test I was not able to determine that clipping was any advantage; it was work for nothing. I would sooner apply water to induce more new growth.—Philo K. Blinn, Alfalfa Specialist, Colorado Experiment Station, Rocky Ford.

Agronomist Kezer's Views

In our work with alfalfa we have found no difficulty in close cutting after the alfalfa has progressed far enough from seeding so that it has started a crown and put forth the crown buds or shoots. With new seeding, care must be taken not to cut close—that is, not to cut below the lowest leaves, until the alfalfa has progressed far enough to begin to put out crown buds. We have found that in our territory, Northern Colorado—in fact, in any of our relatively high altitude climates, that it is best to cut alfalfa practically as soon as the first shoots appear. If the young shoots are cut off, new ones must be put out. These shoots take some time, from one to two weeks.

Apparently it is no reduction in the vigor of the crop, but the harvesting date is by us found to be delayed from ten days to two weeks, and in our short seasons that may be long enough to give us only two cuttings instead of three. Accordingly we have found for our conditions that the best time to cut is just as soon as these crown shoots appear, so that the old growth is removed, permitting the young shoots to commence an unshaded development. If the shoots are allowe to grow up they grow spindling, b cause they are shaded by the old an larger growth. It does not hurt t cut them off, but it does delay harves ing. We find that we can get decidedl more in a single cutting by delayin the time of cutting, but we are ver apt to get a lower yield per year an a poorer cutting of hay by so doin because when we delay cutting for th period after the first appearance shoots, we shorten the time left fo the growth of the second and thir crop. If this period of time left fo the development of the second an third crop is shortened very muc there is no third crop.

It is often noticed in the productio of a seed crop that shoots which wi normally make the next crop are fro one-half to completely grown by th time the seed is mature. The produ tion of a seed crop always reduces th vigor but never seriously impairs it.

The reduction of a succeeding cro is generally a short time reductio and usually applies only to the ne crop or the first crop of the ne season. Many of our farmers depen upon the development of the bloon However, the ones who watch the d velopment of the crown shoots ar increasing extensively.—Alvin Keze Chief Agronomist, Colorado Agricu tural College.

Boulder County Farm Practice

We have all been accepting the th ory that the proper time to cut when the new shoots start, and I thin the majority of farmers watch for th time, altho I do not believe their d cisions are based entirely on this. I fact, I believe most of the farmers this territory are guided more in thei time of cutting by their other far operations than by the new shoots the bloom on the plants. That to say, the cash crops receive the fir attention always, and if alfalfa come ready to cut at the time when the are busy irrigating their wheat an sugar beets, as they usually are at th time of the first cutting, it is delaye for a week or ten days, possibly tw weeks. On the other hand, if the get their beets cultivated, thinning done and their important crops ir gated, then they will jump in and c their alfalfa a little early in order t use the water which they have avai able to irrigate the alfalfa and sta the second crop. In fact, I am incline to believe, were you to get the answer of a great many farmers in this cou ty, you will find that the starting o the new shoots is only one of th many other factors that are considere in determining when they cut. I d not believe it would make material di ference whether this fact were true o not, the farmers would not base thei decision on that one point alone, a there are too many other operation that must be considered.

Especially will this be [illegible] yea in the face of the labor shortage an when farmers will have to trade ha vest labor with one another. A grea many are planning to do this alread and you can again see from this tha the time of cutting will vary consid erably to meet these conditions.

When I was located in southern Ne Mexico before coming here, alfalfa wa the leading cash crop, and naturall being the crop which farmers banke on largely, they paid more attentio to the particular time of cutting an did really follow the plan of cuttin when the shoots started. They als watched the bloom as it came mor regular there than it does here. have seen the young shoots on alfalf here three or four inches high befor the bloom came out to any extent dur ing wet years.—H. H. Simpson, Count Agriculturist, Boulder County, Colo.

On the Uncompahgre Project

I find that our farmers here are us ing both methods of determining th proper stage in which to cut their hay It has seemed to me that the prope method to use in determining thi point is the maturity of the plant

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Things That Are Vital In Seeding Fall Grains

RATE AND DEPTH, AND THE PROPER IMPLEMENT TO USE

DR. VERNON T. COOKE

SOMETHING from nothing. Why expect it? Yet some of us do. Opportunities never were greater or farmers than they are today. Now, olorado is blessed with unsurpassed ertile soils; soils that do and will re-pond to proper treatment or prepara-on. Therefore, why abuse or neglect ur opportunities by slighting the ecessary work to make them give aximum crops? Conditions for the reparation of soil and sowing of fall heat never were more favorable in ost parts of Colorado, and one might y in other semi-arid states, on ac-ount of much more rain than usual aving fallen during the month of ily.

One of the vital necessities, if not e most vital necessity, of getting od returns from sowing fall or win-r crops in semi-arid states is having hand, or rather in the soil, enough oisture to make good, vigorous ants, strong enough to withstand e various temperatures and rigors winter weather. Strong, healthy eather-resistant plants, especially om fall-sown seeds, can only be had ru the proper preparation of the soil. se seeds of first class quality, free om weed seeds and sown in the right antity per acre with that drill which past experience has proved its merit, that time in the fall which enables e seed sown to make an uninter-pted growth, thereby putting out lendid roots, enabling the plant to t a firm hold in the soil and flourish. No progressive farmer can afford to ight his work; it costs too much in llars and cents. Doing things right far more satisfactory to the average an if he will only get into the habit; sides it pays. The farmer who sum-er-tilled his land this season is for-nate under present circumstances, course assuming his land has been ally plowed and not just scratched 3 or 4 inches; also kept clean and ee from weeds. Such land undoubt-edly has several feet of moisture.

Talking of moisture, unless you have several feet of moisture in the soil previous to fall seeding, it is entirely a gamble as to results. It takes moisture and warmth to start any seeds and if, as is often the case, fall seeding is done early, say some time in August and beginning of September, followed by ideal warm growing weather, and there is only a rather small percentage of moisture in the soil, this is soon used by growing plants. Then our crop is entirely dependent upon fall rains, which usually come, but sometimes not in sufficient quantity, and sometimes fail. Result: our crop drles out and we say winter killed, without giving any real consideration as to what we mean by winter killed. Our crop is dead more often thru lack of moisture to keep it alive than we realize.

Assuming, and we have that right under present conditions, that we have considerable moisture in our soil, what ought we to do? Select good seed and test the same for germination and vitality; treat for smut. Sow the minimum quantity per acre, providing you sow it, as is suggested, at the end of August or beginning of September. It is most important not to overlook the fact that oftentimes when, say, 30 pounds per acre is sown, it is possible to sow what is approximately 45 pounds instead of 30 pounds, which we intended sowlng. How and why is this? The following lncident occurred this season: On a piece of fall-sown wheat the question was asked, how much did you sow per acre? Answer: 35 pounds. On this land were growing seven well-developed stooled wheat plants in a space of five measured inches (foot rule used). The crop was too thick. On another piece of land close by the same amount of seed, 35 pounds, was used. There was a good stand, not too thick. Samples of seed used showed well-developed, even-sized seed on the one hand and mixed sizes on the other! So, don't forget—so many pounds of seed does not always mean the same number of grains. Sizes vary. It is by experience that we learn our mistakes. In fact, it is by our mistakes that we make our successes.

The Press-Wheel Drill

We often assume too much and get lnto habits, thru our environment, which are hard to break. To suggest any new idea in some farming communities is to run up against a brick wall, even if you give plain, sensible reasons for the same. Some men assume they know when they know they don't know. Tell some man to use a low-down press-wheel drill and immediately he will fight against your suggestion and start to prove, at least to his satisfaction, he is right. And oftentimes he is when he tells you of someone who used a press-wheel drill on wet or rather moist, heavy soil followed by rain and a hot sun, which caused a crust to form where the wheels had passed, and the seeds could not force their way thru the crust. But let us bring this subject closer home.

They say comparisons are odious, but not the following: Thanks to the good sense of farmers' wives (not assuming that farmers do not have some, too), a good garden is understood to be and is essential as an adjunct to the best living on a farm. How is it or ought

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Feeding a Hungry World

American farmers are asked to sow winter wheat this fall to an extent of not less than 45,000,000 acres. This means an increase of 7 per cent over last fall's sowing. If thls acreage is attained it forecasts a yield, under average conditions, of 636 millions of bushels. Definite quotas of acreage have been assigned to the different wheat-growing states by the United States Department of Agriculture. For the states served by Western Farm Life the expected acreages are as follows: Colorado, 508,000 acres, an increase of 10 per cent over the previous year; Utah, 275,000 acres, an increase of 13 per cent; Idaho, 405,000 acres, an increase of 34 per cent; New Mexico, 283,000 acres, an increase of 5 per cent; Wyoming, 92,000 acres, an increase of 10 per cent.

The forecast for 1918 indicates a harvest of winter and spring wheat of 890,930,000 bushels for the entire United States. This is gratifying, but wheat stocks are practically exhausted and the carry-over this year was the smallest on record. We have no reserve supply, and the drain on us for bread will continue, because European countries have no means of increasing their supply in the face of increasing war demands and a probable continuance of some losses in shipping. Every consideration of humanity demands of us the very greatest possible effort to see that the world does not go hungry.

In the accompanying article Dr. Vernon T. Cooke, dry farming expert, formerly in charge of the Wyoming State Experimental Farm and later consulting agriculturist for the Brazilian government, gives us from the fund of his experience as a wheat grower under semi-arid conditions, some practical, timely suggestions that should be read by every grower of small grains. If these suggestions are not in line with your experience, Mr. Farmer, let us hear from you. Questions will be gladly answered and suggestions further discussed with anyone who is interested.—The Editor.

Corn Harvesting Machinery Saves Time and Labor

VARIOUS APPLIANCES FOR HANDLING THE CROP DESCRIBED

ONE man with a corn knife, by working hard, can cut and shock an average of 1½ acres a day. o men with a platform harvester n harvest four or five acres in the me tlme and three men with a corn nder in a ten-hour day can cut and ock from seven to nine acres. These ures are brot out in a Farmers' Bul-in soon to be issued by the United ates Department of Agriculture to ow advantages of using machinery in tting corn. This year when farm lp ls so llmited there is urgent need the use of labor-saving machinery erever possible. Cutting corn by nd is a hard, disagreeable task, and time when it should be done is nited to a few days if the full feed-value of the corn is to be retained. ll plowisg, seeding for winter wheat, rvesting beans, and digging potatoes st be done on many farms at about same time. In such cases the eliness and ease of accomplishing work are determining factors in ding the advisability of using corn-ting machinery.

The corn blnder does the best work en the corn is all standing upright. ually most satlsfactory results are ained with a three-horse team, and netimes four horses are necessary en the corn is heavy or the ground ly. In ordinary yields, one man rating the binder wlll keep two n busy gathering the bundles and cking them. These three men cut-g and shocking by hand would rcely cover more than four acres a day, and lt would be necessary work much harder than when the n binder is used, thus the machine uiring less laborious work, takes m one-half to two-thirds as long to a given acreage.

When the binder is used for cutting corn for silage the labor of at least two men will be saved as compared to cutting by hand. One binder will usually be able to cut the corn as fast as a 12- or 14-inch silage cutter can handle it. A great deal of tlme is saved in unloading at the cutter, because the corn is in bundles, which enables a further reduction in the size of the harvesting crew.

A bundle elevator attachment to the corn binder saves further labor. By this attachment the bundles of corn are delivered directly to a wagon driven by the side of the binder. This method eliminates another man in the crew. When the bundles are dropped from the binder to the ground two men are generally required to hand them up as fast as one man can arrange them on the wagon. When an elevator attachment is used one man usually arranges the bundles on the wagon as they are delivered from the binder and another man or boy drives the team.

The platform harvester is a satisfactory machine when the acreage in corn is not sufficiently large to justify a binder. This machine consists of an A-shaped platform on low wheels, two sides of which are equipped with knives. It is drawn by one horse, operated by two men, and cuts two rows at a time. The men gather the stalks as they are cut, and when the shock is reached the horse is stopped and the men carry the cut corn to the shock. In cutting corn with a platform harvester for silage much time can be saved and efficient work done if a wagon is driven alongside the harvester and the corn placed on it directly as it is cut. By this method approximately five acres of corn yielding eight tons of silage per acre constitutes a fair day's work. Two men with a platform harvester and one horse will cut and shock at least as much corn in a day as three men cutting by hand. This machine thus taking the place of one hired helper, will very nearly pay for itself in cutitng 40 acres.

There are other types of corn harvesting machinery in successful use, among them a self-gathering sledge harvester with binder attachment, which handles one row, with one horse and is run by one man.

Then there is the home-made sledge harvester, equipped with two knives, which handles two rows at a time, is drawn by one horse, and carries two men, who gather the stalks as they are cut and stop to shock them when they have an armful. These corn sledges are usually built about seven feet long, with the runners of 2x6's, and a platform on which an ordinary goods box is mounted for a seat. The nose is made of a width sufficlent to pass between two corn rows—about two feet wide—and the knives set in at an angle on each side. Shafts are fitted to the sledge. The blades can be ground by a blacksmith from an old six- or eight-foot cross-cut saw, which may be picked up at a second-hand store. They should be ground down to a keen edge.

Caution must be used in working with a sledge of this type. The men should be careful to always step off the back end, and the shafts are necessary to protect the horse. Six to ten acres a day can be cut in corn of the short-stalk variety.

The accompanying cut shows such a sledge at work on a farm in El Paso county, Colorado.

Home-made Corn Sledge Harvester at Work on Farm In El Paso County, Colorado

The Big National Tractor Show

HIGH LIGHTS ON THE EXHIBITION AT SALINA

THAT there is interest in tractors was demonstrated at Salina, Kans., the first week in August, when 40,000 persons watched the work of hundreds of different makes of power farming machines on a tract of 3,000 acres of level land set aside for the National Tractor Show, the only event of its kind on a national scale this year. Salina's hotels and homes were taxed to capacity to accommodate the throng. It was conservatively estimated that not less than 3,000 factory representatives were on the ground and they had the busiest week of their lives.

An effort was made to show that every farm operation requiring horse power could be done by machines in a satisfactory manner. Those who followed the tractors over the field thru the hot sun for several days were convinced that wonderful progress had been made even in so short a time as a year, especially in the development of other than plowing features.

The things that the makers desired to show was economy in time and money and efficiency in work accomplished. In other words, they wanted the farmers to see that motorizezd farming meant better farming and greater profits, because of reduced costs. Of course, plowing had first interest, because that is the fundamental job, but almost equal in interest were the operations of disking, sub-soil packing, drilling, etc.

The harvest of sales was big, but the chief consideration of the makers was to convince by demonstration under actual working conditions what their machines could do, leaving the farmer to make up his own mind on the buying question. A staff correspondent of the Kansas City Star tells one incident of a farmer from Abilene, Kans., who was so anxious to try out his tractor—a Case 10-18—that he drove it right home from the demonstration field, a distance of 39 miles, and, presumably, got busy right away plowing for fall wheat. This same correspondent adds.

"A close questioning of visitors and listening in on their discussions of the tractor impresses one with the outstanding feature that the farmer has no doubt whatever of the value of the tractor and motorized farm implements, but hesitates only for fear of mechanical imperfections and repairs too difficult for him to make. In other words, the farmer wants to know more about the upkeep cost than the first cost and is centering his investigation on the refinements to the engine, new appliances, preventives of wear, accessibility of parts and ease of replacement in the event of accident."

In these days of abnormal effort to produce greater crops with the handicap of fewer men to do the work, the tractor must come into its own. Over in Europe the reconstruction of devastated areas of farm land is being accomplished by machine. It was brot out at the Salina show that the Emerson Brantingham company has shipped during the last year, 500 tractors to England, 700 to Italy and 100 to Russia. Other makers, too, have filled large foreign orders. This in itself is convincing American farmers who have not yet investigated the tractor thoroly, that they are overlooking an opportunity to put their farming on a more efficient and better paying basis.

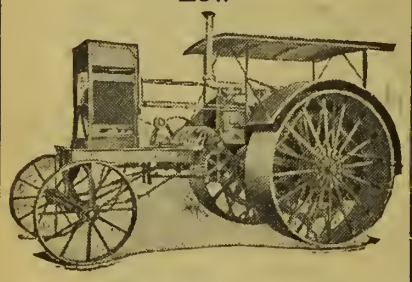
One of the features of the show that proved exceedingly popular was the exhibit of the International Harvester company, who showed the farmer how a machine will plow, disk, fertilize, cultivate, harvest, bind, shock and thrash. To show a machine shocking wheat faster than human hands can do it was a revelation to farmers from the wheat belt with harvest hand troubles on their mind.

Another interesting feature was an Avery tractor pulling plows, harrow drill and sub-surface packer, making a complete seedbed in one operation.

These are just a few of the high lights on an exhibition that is of vital interest to all farmers. We are witnessing a revolution in agricultural practice and few of us yet realize what it will mean. The war is hastening the day of farming by machine and the wise farmer is he who begins his investigation right now into tractor operation, cost and other features.

Western Farm Life is prepared to answer questions regarding tractors and tractor operation and to advise with farmers who contemplate buying. Address all inquiries to Service Bureau, Western Farm Life, Denver, Colo.

Fuel Consumption Unusually Low



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KEROSENE TRACTORS

Simple and substantial tractor construction, combined with a powerful motor operating successfully on kerosene is a brief description of a Flour City Tractor.

Eighteen years' experience in building farm tractors has taught us that Positive Reliability is the most essential feature that a farm tractor can possess.

Every unit of a Flour City is built to stand an overload, thus insuring the user continued service with only minimum breakages and repairs.

Flour City Tractors are made in 5 sizes; 12 to 40 H. P. at the drawbar, for 3- to 10-plow outfits.

Catalog and testimonial book sent on request.

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$100 to $300 Per Month can easily be earned by men who take a course at this school. We teach you to be a Mechanical Executive—to be able to boss the job and hold the better positions, such as foremen, superintendents, managers, etc.

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Hundreds of positions are open for well trained men. Mechanical men who go into the Army get preferred positions paying up to $145 per month, with opportunity for advancement.

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THE SELF-OILING WINDMILL

has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load

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Speeds Up Work At Harvest Time

Waterloo Boy at Work

John Schoepf & Sons, Seward, Nebraska, write: "We plowed 42 acres with 60 gallons kerosene in 5 days; we shelled 18 loads corn in 2½ hours; we threshed 16 loads clover and alfalfa in 4½ hours with a No. 6 huller, the largest in this section. We think the Waterloo Boy as powerful and as cheap to operate as any tractor."

You need to do some fast work when your standing crops are ready to cut; and you can rely upon the Waterloo Boy one man, three-plow, cheap fuel tractor to make every minute count.

One man can harvest 25 acres per day with the Waterloo Boy and an 8-foot grain binder, or 10 acres per day with a corn binder—has a threshing record of 16 loads clover in 4½ hours.

Stands Severe Endurance Test

The Waterloo Boy motor has pulled a 25-H. P. load for 312 hours without stopping. A test run of eight months showed average kerosene consumption of less than 1½ gallons per hour.

As efficient in the field as at the belt—pulls three 14" bottoms in heavy soil, with ample reserve power. Light weight, large, wide wheels, with powerful quick-starting motor and easy control enable the Waterloo Boy to do good work "where heavier tractors would not dream of working," writes one owner.

Remember, the Waterloo Boy is made and backed by a responsible manufacturer, and has over four years' proven success to its credit.

Illustrated Catalog sent free, shows why thousands of farmers are buying the Waterloo Boy. Write for it.

Waterloo Gasoline Engine Company
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Help Save the Canadian Crops

When Our Own Harvest Requirements Are Completed

UNITED STATES HELP BADLY NEEDED
Harvest Hands Wanted

Military demands from a limited population have made such a scarcity of farm help in Canada that the appeal of the Canadian Government to the United States Government for

Help to Harvest the Canadian Grain Crop of 1918

Meets with a request for all available assistance to go forward as soon as our own crop is secured.

The Allied Armies must be fed and therefore it is necessary to save every bit of the crop of the Continent—American and Canadian. Those who respond to this appeal will get a

Warm Welcome, Good Wages, Good Board and Find Comfortable Homes

A card entitling the holder to a rate of one cent per mile from Canadian Boundary Points to destination and return will be given to all Harvest Applicants. Every facility will be afforded for admission into Canada and return to the United States. Information as to wages, railway rates and routes, may be had from the

United States Employment Service
Branches at Colorado Springs, Denver, Grand Junction or Pueblo

Original MILLER Bean Harvester

Beware of imitations,
Buy the genuine.

LE ROY PLOW CO.
Le Roy, N. Y.

Distributors, CARR MANUFACTURING CO., Kansas City, Mo.

Farm Help for Colorado

Thru the medium of Farm Bureaus and labor committees of county Councils of Defense, an intensive organization has been perfected in Colorado which lists the available labor in the farming communities and sees to it that the farmer and his help are kept in touch with each other with the least possible loss of motion and effort. More than 150 labor offices, or exchanges, are in operation thruout the agricultural sections of the state.

One of the principal objects of such an organization is to prevent unnecessary shifting of labor and consequent loss of time. Dame Rumor, always ready to spread a yarn about better wages being paid in the next township, or the next county, here meets a system which gives out the facts.

Every effort has been made and is still being made to cause a standardization of farm wage. The necessity for such action is self-evident. For their own protection and to again prevent unnecessary shifting about, the farmers must pay a uniform wage; the wage must be fair and they must stick to it. The farmer who bids against his neighbor and takes his help away from him is selfishly relieving his own temporary condition while at the same time adding to the difficulties of handling the farm help question as a whole. Wage schedules have been adopted in various parts of the state; this is as far as the organization, and state and federal officials can go in the matter. The farmer must stand by his schedule. Intimate touch is maintained daily with all agricultural sections in order that an excess of labor in one locality may be directed to another in which conditions are not so favorable.

The towns and cities have been brot face to face with their responsibilities in the farm labor matter. Many are prepared and have already organized "shock troops" of their citizens who are ready and willing to take the field and help in relieving the harvest pressure. Some towns have signified their intention of shutting up entirely or letting the women do the town work while the men go to the aid of the farmers.

Pressure is being brot to bear thru local state and federal agencies to make every able-bodied man go to work and to do a full day's work. Farm help is being impressed with its responsibility in the present emergency; it is being taught that to loaf on the job is to aid the enemy; that honest working is equally essential to honest shooting.

The boys are lined up ready to help, and already hundreds of them are manfully trying to do a man's work on the farm. They are being trained as rapidly as possible and placed in such sections as they may be helpful, and at such jobs as they can do. For the most part their spirit is splendid, and they are being met halfway by the man who employs them.

The federal offices of the Department of Labor, thru the newly organized employment service, are rendering every assistance within their power. Extensive propaganda work is being carried on to familiarize farmers with the best in labor-saving devices, and to give them all possible aid in taking short cuts in their work.—D. W. Thomas, Farm Labor Specialist, U. S. Department of Agriculture.

Loans for Drouth Sufferers

The following statement has been given out by the Treasury department and the Department of Agriculture:

Acting upon the urgent representations that many wheat growers in certain sections of the west who have lost two successive crops by winter-killing and drouth have exhausted their resources and may be compelled to forego all planting and, in some cases, to abandon their homes unless immediate assistance is extended, the President on July 27 placed at the disposal of the Treasury department and the Department of Agriculture $5,000,000 to enable them to furnish aid to that extent. The two departments are already actively at work formulating plans for making loans under this authorization, and complete details will be announced in the daily and weekly press.

It may be stated generally that the federal land banks in the districts affected will be designated by the Secretary of the Treasury as the financial agents of the government to make the loans and to collect them. The Department of Agriculture, thru its special officers, including the county agents, will ascertain the needs of the individual farmers and determine the feasibility of the planting.

The primary object of this fund is not to stimulate the planting of an increased fall acreage of wheat or rye in the severely affected drouth areas, or even necessarily to secure the planting of a normal acreage, but rather to assist in tiding the farmers over the period of stress, to enable them to remain on their farms and to plant such an acreage as may be determined to be wise under all the conditions, with a view to increase the food supply of the nation and to add to the national security and defense. It is distinctly not intended to be used to stimulate the planting of wheat or any other grain where such planting is not wise from an agricultural point of view and where other activities are safer.

It is not intended that this fund shall be used to make loans to farmers who have banking collateral and can otherwise secure loans. The recent action of the War Finance corporation, indicating its willingness to make advances to banks and trust companies which have made loans to farmers and cattlemen, should ease the general financial situation and in large measure enable bankers to extend accommodations to farmers having such collateral. Banks are urged to avail themselves of the offer of the War Finance corporation.

First Annual Ram Sale

The first annual ram sale under auspices of the National Western Stock Show Association will take place September 3, 4, 5, 6, in the stock show amphitheater at the Denver yards. Some of the west's biggest breeders will have offerings in the auction ring. The show should attract not only the flockmasters from the western sheep ranges, but also the general farmer who will find sheep raising on the average farm a profitable business.

About 1,200 head, including a number of imported rams and ewes, will be offered. All the leading breeds will be represented, including the Rambouillets, Hampshires, Cotswold, Shropshires, Lincolns, Corriedales, Karakules and crossbreds. Among the big breeders who have consigned pure bred and registered sheep are the following:

John E. Webb, Indianapolis, Ind.; F. S. King Bros. Co., Laramie, Wyo.; International Karakul & Rambouillet Sheep Co., Brino, N. M.; Chandler P. Raup, Springfield, Ohio; Walnut Hall Farms, Donerail, Ky.; Robt. Blastock, Donerail, Ky.; Allen C. Nash, Montrose, Colo.; A. W. Rucker, Mt. Morrison, Colo.; Carl Westesen, Olathe, Colo.; Joseph Thompson & Son, Wheatland, Wyo.; Harry Petrie, Golden, Colo.; R S. Robson & Son, Denfield, Ont. (Canada); A. J. Knollin, Pocatello, Ida.; Anoka Farms, Waukesha, Wis.; Colorado Agricultural College, Ft. Collins, Colo.; R. Eggleston, Mt. Morrison, Colo.; Wyoming Corriedale Sheep Co., Cheyenne, Wyo.; Alex Albright, Dundee, Texas.

Wyoming State Fair

Bigger and more far-reaching in extent than any state fair held in Wyoming will be the 1918 show, at Douglas, September 9th to 14th inclusive, according to members of the commission. The secretary is devoting a great deal of time seeking suitable attractions in both the exhibit and amusement lines and already has enough lined up to make the fair a great success.

Perhaps one of the most assuring bits of news to reach the office was a letter from the Department of Agriculture which stated that an exhibit was available for the Wyoming show which would cover three or four thousand feet of space. The commission has accepted the official's offer, and unless unforeseen conditions arise the government will have more than one national exhibit when the state fair gates open to visitors on the 10th day of next September. The state food administration is also co-operating in securing this exhibit.

PROOF of Avery Tractor success is shown by the way Avery Tractor sales grow in the same community. When one farmer gets an Avery Tractor, his neighbors watch its work closely. It is not long before another Avery arrives and then another, for his neighbors see that Avery Tractors stand up under the work.

Likewise, when an Avery gets into a family, other members of the same family soon become Avery owners. Brothers, cousins, fathers and sons, uncles, and nephews are buying Averys. We have many records of where two, three and four brothers in the same family have bought Avery Tractors. The fact that neighbors, friends and relatives buy Avery Tractors after they have watched carefully the work of the first Avery Tractor in their community or family, is the very best proof that Avery Tractors are a success.

Power for Every Farm Need

You can get an Avery Tractor to exactly fit your size farm. Avery Tractors are built in six sizes—a size for every size farm. With an Avery Motor Cultivator you can also cultivate your row crops with motor power. You can also get a size Avery "Grain-Saving" Separator and Avery Plow for any size Avery Tractor. For any kind of field work, belt work or road work, there is a successful and profitable Avery Motor Power Machine.

Built by Motor Farming Machinery Specialists

The five sizes of Avery Tractors, from 8-16 to 40-80 H.P., are all of the same design. They have low speed motors, renewable inner cylinder walls, adjustable crankshaft boxes, gasifiers that turn kerosene into gas and burn it all, and many other original and exclusive features.

Avery Tractors are built entirely in our own big factories and every part of an Avery Tractor is built especially for tractor work and only for the Avery Tractor. Avery Company are *builders*—not assemblers.

See the Nearest Avery Dealer

Go to your Avery Dealer and get the size tractor and equipment to meet the needs of your size farm. No matter how small or how large the acreage you cultivate, Avery motor farming machinery will fill your requirements. Or, write for complete catalog, showing the Avery Line in natural colors.

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AVERY

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DEPARTMENT EDITORS

E. R. PARSONS.....Dry Farming
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Safe Dry Land Farming

While every available acre should be planted to wheat, in response to the appeal of the nation, let us not forget that it is just as important as ever to follow a sound system of agriculture. "Every available acre" does not mean that no room shall be left for other crops. Stick to the safety line; remember it takes livestock to make the farm pay, and that meat is next in demand to bread. This is particularly applicable to the dry land wheat sections, where the tendency is to run altogether to cash crops. We have an illustration of the damage that comes from the one-crop plan in the following item from the Kansas agricultural press:

One year ago the business and professional men of Dodge City, Kans., responded to the call of the farmers for help in putting out a large acreage, and thru their financial aid, thousands of acres were seeded which would have otherwise lain idle. Again this spring these same men answered the call for spring seed, the winter wheat dying during the drouth of the winter months. Now the spring crop is reported a failure as well as winter, and these men who lent the financial aid for two crops are out thousands of dollars, and with their business falling off, due to the non-production, they cannot respond again for the coming fall crop. What was true of Dodge City business and professional men is true of many other cities and towns in the southwest section of the state.

The condition of these Western Kansas wheat growers is due to their own lack of foresight. The region around Dodge City, while one of the best wheat-growing districts of the West, is in the vicinity of the twenty-inch rainfall line, where it is absolutely essential for farmers to have forage crops and livestock to fall back on when the rains are too scant to make wheat. If the district got an even 20 inches every year it would be comparatively sure of a good wheat yield every season, but under a fluctuating rainfall, such as we have all over the Great Plains area, it is necessary for the farmer to insure himself a steady income from meat or milk, produced by feeding drouth resistant forage crops. It is commendable to enlarge the wheat acreage in such districts, but by no means patriotic or helpful to the nation to do this to the neglect of livestock and forage.

When a call for financial aid has gone from the Great Plains region, or any part of it, it has usually been the result of an unwise cropping system and a failure to follow established methods of moisture conservation. Occasionally there has been a disastrous season affecting even the most drouth-resistant crops, but generally the call for help has been due more to man failure than to the vagaries of nature. We have such a good line on moisture conditions in the Great Plains area that there is no further excuse for the dream of an increasing rainfall. We don't get it, and our farming plans must be arranged to suit the natural conditions.

★ ★ ★

"Just a Farmer's Wife"

The above title is the signature which was attached to a communication from one of our subscribers, complaining about retail prices of sugar and charging "crookedness" in the carrying out of Food Administration regulations. Once more let us call attention to a fixed rule, which is followed in all departments of every publication, no matter what its kind or character, and that is to pay no attention to communications that do not bear the signature of the person sending them. If "Just a Farmer's Wife" had signed her name, with the request that it be not published, we would have taken up her complaint with the proper authorities. We shall still do so if she will kindly let us have her name. If she does not wish to assume responsibility for the charge, we cannot help her sift it to the bottom. We are at the service of our subscribers to help them solve their farm and household problems, but in justice to everybody concerned no anonymous complaints can be considered.

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Hold Your Liberty Bonds

To successfully finance the war it is necessary that owners of Liberty bonds hold their bonds if possible. Where for any good reason it is necessary for them to turn their bonds into cash they should seek the advice of their bankers.

Liberty loan bonds are very desirable investments, and crafty individuals are using various means to secure them from owners not familiar with stock values and like matters. One method is to offer to exchange for Liberty bonds stocks or bonds of doubtful organizations represented as returning a much higher income than the bonds.

There are various other methods used and likely to be used, some of the gold-brick variety and others less crude and probably within the limits of the law. All offers for Liberty bonds except for money and at market value should be scrutinized carefully. The bonds are the safest of investments and have non-taxable and other valuable features.

To hold your Liberty loan bonds, if possible, is patriotic. To consult your bankers before selling them is wise.

★ ★ ★

The Educational Fair

The following article written by the editor for the Boulder County Farmer's Exchange Bulletin, gives our ideas on making a county or community fair educational:

Education should be the keynote of every county or community fair. Without educational features no fair is worth holding. With such features, carefully balanced with a share of entertainment and amusement, a fair can become of great benefit to the community it serves. The eye is the most acute mental faculty. What we are taught by means of what we see is learned with ease and retained in memory longer than the impressions coming thru the other senses. In the teaching of agriculture, as with other branches of science, visualization is the readiest and most effective means employed. The county fair should be the school where the farm family may, in the shortest possible time and with the least conscious effort, acquire a knowledge of what the year's crop and farm animal development has been in the community.

On the farm the story of insect damage, the report of smut infection, the complaint of poor seed and a dozen other things vitally affecting the farming business, may pass from mouth to mouth. In this way, however, the spread of knowledge of conditions and methods of combating them, is slow and often inaccurate. If at the county fair farmers may see the results, in graphic exhibits that tell their story to the eye, and impress it upon the brain vividly, it will not be quickly forgotten.

To mention just one of the benefits that may be derived from the educational side of a county fair: we know that our greatest drawback in the wheat sections is lack of uniformity in varieties grown, as well as impurity of type in the same varieties. Unless wheat growers can be brought face to face with an exhibit showing the bad effects of this from the standpoint of revenue, the condition cannot be successfully remedied.

At the properly conducted county fair the farmer is given a comprehensive view of the problems of the whole county and at the same time he gets a hint as to the remedy and how to apply it. Any crop or farm practice can thus be given attention thru exhibits and be made to teach its lesson. This is getting away from the old time practice of trying to outdo our neighbor in producing the biggest squash or the largest yield per acre under special conditions. Such competition has some good effect, but a fair where this is the main idea is not worth its cost to a community.

We have the farm animal shows of Great Britain and France to thank for the progress of the art of breeding cattle, sheep and horses. The animals themselves, tested by well-defined rules, educate the farmers in the business of animal production for milk, or beef, or mutton, or draft power. In applying this principle to crops the educational methods have to be a little more elaborate, but they can be made just as effective toward crop improvement if the fair management is alive to its opportunities.—Alvin T. Steinel, Editor, Western Farm Life.

Scours in Calves

Please tell me what to do for my calf. He is about two months old, drinks from pail. I feed him whole milk fresh from cow. He has had scours twice, this time pretty bad; not just white but sort of slate. He eats pretty good, but once in a while will refuse the milk for two or three meals and seems to want to chew old rags, paper, or even manure. Isn't thin, but don't look thrifty. He has grass run and plenty of water, also salt. I have been very careful never to give it sour milk; has had some hay to pick at, but don't seem to eat much.—B. R., Chaffee County.

If suckling calves have scours, it is probably infectious. If several bucket-fed calves out of say twenty have scours, it is probably infectious. Calves sometimes get indigestion and scours from improper feeding and care.

In case of infectious scours the infection takes place either thru contamination of food (milk buckets, etc.), or thru the umbilicus while the calf is floundering around on the ground immediately or soon after birth. See that calves are born on grass plot or some place other than dirty corral.

Do not depend entirely on "cures"—prevention is the main thing. CLEAN UP.

Clean and disinfect stable, etc.

Chemical disinfectants are used to good advantage in controlling disease and the following directions for their use are given:

1. Sweep ceilings, side walls, stall partitions, floors, and other surfaces until free from cobwebs and dust.
2. Remove all accumulations of filth by scraping, and if woodwork has become decayed, porous, or absorbent, it should be removed, burned and replaced with new material.
3. If floor is of earth, remove 4 inches from the surface, and in places where it shows staining with urine sufficient depth should be removed to expose fresh earth. All earth removed should be replaced with earth from an uncontaminated source, or a new floor of concrete may be laid, which is very durable and easily cleaned.
4. The entire interior of the stable, especially the feeding troughs and drains, as well as milking stools and all other implements, should be saturated with a disinfectant, as creso compound (U. S. P.) or carbolic acid, 6 ounces to every gallon of water in each case. After this has dried, the stalls, walls and ceilings may be covered with whitewash (lime wash), to each gallon of which should be added 4 ounces of chlorid of lime.
5. All refuse and material from stable and barnyard should be removed to a place not accessible to cattle or hogs. The manure should be spread on fields and turned under. In addition, the yards should be disinfected by sprinkling liberally with a solution of copper sulphate, 5 ounces to a gallon of water.

The best method of applying the disinfectant and the lime wash is by means of a strong spray pump, such as used by orchardists.

Most of the calves will die, a few may be saved by treatment. Try the following:

Give a dose of castor oil and follow two or three times a day with a teaspoonful dose of mixture of 2 parts of bicarbonate of soda and 1 part each of salol and subnitrate of bismuth, washed down with milk or water. Take away all milk for one or more feeds, and then feed scantily for a time with milk diluted with water and gradually increase. Scours are often the result of overfeeding and indigestion.

Or the following may be tried: Do not give the calf quite enough milk to satisfy his hunger. Warm the milk. If the separator milk is given, add a handful of corn meal or flaxseed meal to each pail of milk, to supply the fat that has been removed in cream. This will also keep him busy eating the meal from the bottom of the pail, instead of sucking the other calf's ears.

The following are very good remedies for scours: Add ½ ounce of formalin to 15½ ounces of water. One teaspoonful of this stock solution is added to each pint of milk given the calf.

In every acute case try the following: Take equal parts of spirits of camphor, tincture of opium, tincture of rhubarb and oil of peppermint; mix thoroly, and give 1 tablespoonful in about 6 ounces of water every 3 hours.—Dr. Geo. H. Glover, Veterinary Department, Colorado Agricultural College.

Altho known the world over as a dairy country, Switzerland has under stress of present food conditions established milk rations. The daily allowance per person is one-half liter (about four-fifths pint), except that children under 15 years, adults over 60 years and farmers' families may have double that amount per capita.

The Branding Iron

Applied by Elias M. Ammons

Under direction of the federal government all of the state colleges of the country are to give military training to students over 18 years of age. The effect of the plan is to reduce the draft age from 21 to 18 so far as college students are concerned. The scheme goes so far as to require six weeks of camp service each summer. Students will be kept under strict military discipline and given the technical training so necessary in modern warfare. Every institution in the country is bending its best efforts to meet the new demand. In addition to the work for the regular students a large number of drafted men are being given short practical courses in technical work.

✦ ✦ ✦

The drouth in portions of the southwest is only partially broken. In parts of Texas the crops are a failure for the third season in succession.

✦ ✦ ✦

Speaking of opposition to German institutions, how about the forestry system established in this country during the past few years? Was that not borrowed bodily from the kaiser with all its anti-American ideas, and wouldn't it be a good time right now to, at least, Americanize that portion of the system which was brot to this country from Germany?

✦ ✦ ✦

There is still plenty of time to plow for fall wheat and fall wheat is the very best ammunition to be used in whipping the kaiser.

✦ ✦ ✦

Coke Roberts recently sold two carloads of Hayden, Routt county, steers for $256 a head. These cattle were grass steers. They illustrate very well the policy which should be pursued by growers. They were well bred, but no better than most of the other cattle in the state. The main point is they were kept growing, and retained their good quality until maturity. There was probably no considerable period of time during which they were not growing, and consequently there was no loss of time or feed. A similar policy followed by all producers would not only speedily relieve the shortage of beef, but would save feed and expense and greatly increase profits.

✦ ✦ ✦

If we could only increase the army of producers by a number equal to those engaged in preaching conservation, we could grow enough meat, bread and sugar to supply all war demauds.

✦ ✦ ✦

Because of the reported decrease in the production of gold, an effort is on foot to "protect" that metal by placing a bonus on it, thereby enhancing its value to its holders to the disadvantage of everyone else. A better solution would be to discontinue the scheme to lease the precious mineral lands and re-establish the inducements offered to prospectors before the forest reserves were laid out. The removal of unwarranted restriction upon the use of water power would also encourage the mining of low-grade ores.

✦ ✦ ✦

The shipment in unusual numbers of cows to market continues, and the hesitancy on the part of banks to carry loans on this class of stock is given as the reason. The result cannot be otherwise than bad for the future of the business. With present shortage of beef cattle and the imperative necessity for increase, some plan should be found to finance growers. The present policy of short-time loans will not encourage the growing of breeding herds. If arrangements could be made for reserve banks to carry twelve months cattle paper it would help the situation materially.

✦ ✦ ✦

According to reports received by the United States Food Administration, the cost of living in Norway has increased 137 per cent since the beginning of the war, in Sweden 92 per cent and in Denmark 60 per cent.

Comment by Farmer Putnam

OUR MISSOURI FRIEND HAS A GOOD TIME VISITING THE FOLKS IN EL PASO COUNTY

TALK about bein' henpecked! I guess I'm it all right. Old Henry Peck hisself couldn't a been more downtrod than me. I was figgerin' on goin' down to El Paso county a while ago and havin' a good time, as usual, but when I told Josephine about it she sez:

"Now, Tom, bein' as we has give up the ranch and has to live in town on account of your literary work, I've decided to go with you on them trips and lend variety."

Lucky fur me I was quickwitted fur onct and did not try to argy her out of it, exceptin' to say: "What you goin' to do with the chickens while you're gone?"

"Oh, I got a ad. in the paper now to sell the flock; they're thru layin' anyhow and Vaplon sez we shouldn't ought to keep 'em after they're two years old, but pass 'em on to somebody else to feed a while, so I'm goin' to cull off the hull flock."

Sure enough, she did sell 'em and also our turkey, which was give us by Bert Cave last fall and which we couldn't tell fur a long time whether it was a gobbler or a Josephine. We had many a argumint over it, but Josephine won out. She said all the time she knowed it was a gobbler because it grabbed all the choice food from the chicks; she sez that is characteristic of the male sex in all kinds of animals, includin' the humans, and a never failin' sign. Well, she sold that bird fur a gobbler, and I hope and trust she was correct, because I don't want to cheat nobody and git found out.

Well, everything went on fine till three days before we was ready to make the trip and then nature interfered. Our cat had a litter of kittens. I knowed how Josephine would never leave a young critter without care, no matter what it was, poultry, pigs or pups, so I just laffed to myself and said out loud: 'Now, ain't it too bad you cain't go along to El Paso county; it's just like that old cat to have a litter at the wrong time. I'm sorry fur you, Josephine."

She snapped right off: "Sorry! Be sorry fur yourself; I'm going with you. I bin expectin' this and I done made arrangements with them Torry gals to take care of puss and her young uns while we're gone."

She is sure a forehanded woman and so it was that me and her and Rufus all went down to the Springs to visit with Brother Lauck's farmers up in the Eastonville and Table Rock country.

In spite of bein' burdened with the extry baggage I had a good time. Nobody could he'p havin' a good time with them El Paso county folks. We stopped at Peyton to pick up a lot of autos which was loaded with farmers, and then the fust place we inspected was Bradshaw's. I don't need to give no details about the farm end of the trip, because the editor is goin' to do that in his part of the paper. We'll hurry along to the black Forest where the big doin's took place—the dinner.

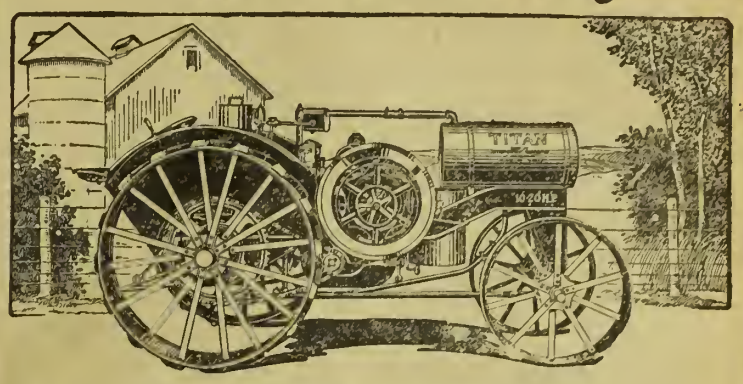
We was invited to eat with the Pauls' and we done so. If anybody has any doubt on that point write to W. H. Paul, Eastonville, and find out what become of the fried chicken and how is the appetite of the Putnam family. The Laucks' and Miss Collopy brot along a can of ice cream from town and all throwed in together with the Pauls'. Mrs. Coffin, the cottage cheese lady, was part of our party too, and we all tried to make her eat cottage cheese, because she demonstrates in it, but she sez, no doctor takes his own medicine; as fur her, she'd stick to chicken, etc. It seems cottage cheese is all right to demonstrate economy with, but lots of farmer folks considers it darn poor food, especially when they kin have so much other good things. I think the thing to do with them economy dishes is to sell 'em to town folks and let the producers have the substantials. Editor Green of the El Paso County Democrat also ate with us and showed by his actions that it's a treat fur a editor to git a square meal.

The Eastonville and Table Rock farmers' clubs done their selves proud in entertainin' us. They had fixed up a big camp stove in the piney woods and they had steamin' hot coffee ready fur us when we drove in after a hard day's work. They had cream cans with real cream in 'em fur them that wasn't from Missouri, where we allus drink our coffee an' everything straight.

Everybody that wanted it had to bring their own sugar, on account of Mr. Hoover's request. The country people thinks the world and all of Mr. Hoover and they follers his requests on everything, because he puts it up to us fair and square: "Do you want to swim in luxury when the poor of Europe is starvin'?" We all answer: "No," and we try to do without everything that he wants us to. It seems almost a shame fur us to eat as well as we do when we know how bad they needs food in Belgium, England and France and some of them other countries near Jerusalem, where Jesus fed the five thousand. Hoover has got to have more grub per man than Jesus

(Turn to page 12)

Tractor Safety



FOR twelve years and more, shrewd and careful American farmers have kept us busy filling their orders for **International, Mogul,** and **Titan Kerosene Tractors.** In those twelve years our tractors have had to meet every possible combination of field and climate conditions. The types and sizes we sell today are the ones that have successfully met every test. Any one of them is a safe tractor to buy.

One great advantage to farmers who buy our tractors is the fact that we can also supply all the implements and machines that go with the tractor. We know farm needs. Buying from us, you get a complete, well balanced outfit for field or belt work.

Another advantage is our extensive dealer and branch house organization. A telephone call to a nearby dealer brings you promptly a repair, replacement, or adjustment for any machine we sell.

Look at it any way you will, you cannot make a safer tractor investment than to buy an **International, Mogul** or **Titan** kerosene tractor. See our dealer in your town, or write us for full information about a safe tractor for your farm.

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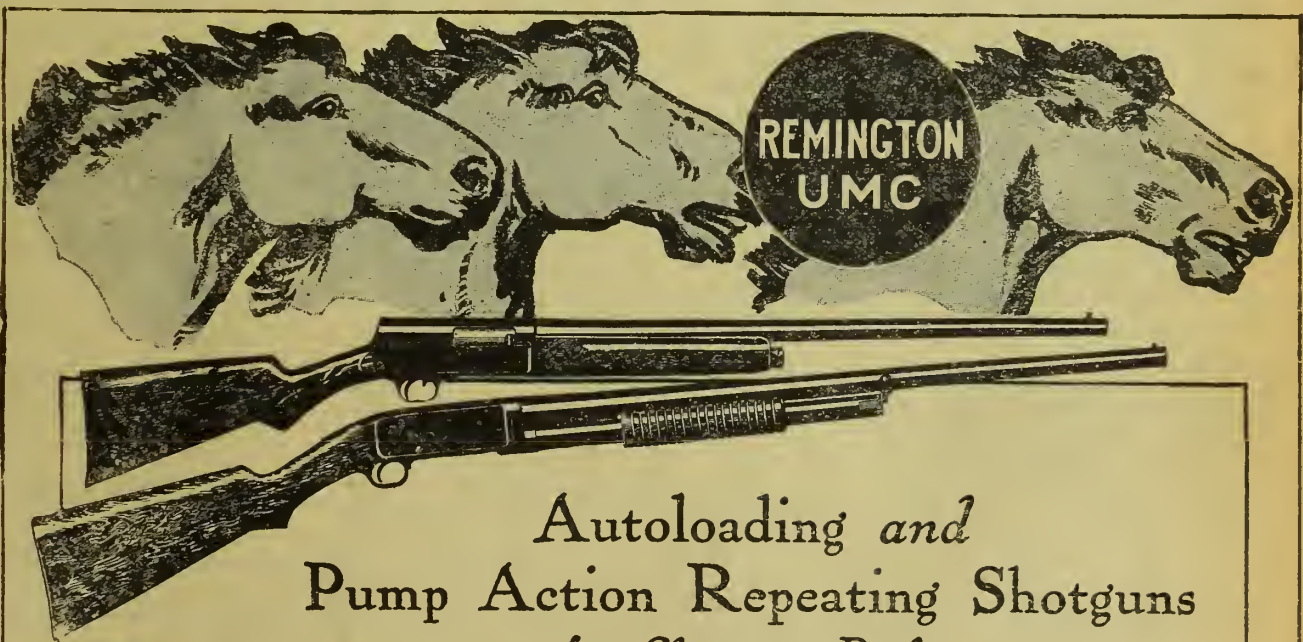

Autoloading *and* Pump Action Repeating Shotguns *for Shooting Right*

WHEN you throw off *your* harness, and grab a shotgun for a good old-fashioned hunt, you are going to want *the run you have coming to you.*

Choose either the Remington UMC Pump Gun or Autoloading Shotgun and you will be on the *right* track. Among modern firearms they are the leaders in the shotgun class—leadership backed by the Grand Prize gold medal, highest possible of honors "For Modern Firearms and Ammunition," awarded to Remington UMC at the last World's Fair, in San Francisco. In other words, made *right.*

For the *right* shells, get Remington UMC Smokeless "Arrow" or "Nitro Club," the *steel lined* "speed shells," now made Wetproof by a wonderful and exclusive process—or in *black powder,* buy the old reliable "New Club," now Wetproof sealed at turnover (crimp) and top wad.

"Arrow" and "Nitro Club" Wetproof Steel Lined Shot Shells

Sold by Hardware and Sporting Goods Dealers in Your Nearest Town

Clean and oil your gun with REM OIL, the combination Powder Solvent, Lubricant and Rust Preventive

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Largest Manufacturers of Firearms and Ammunition in the World
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Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

There has been a good deal of comment recently concerning certain $10,000 boar sales, but the price paid for Jack's Orion King 2d seems not to have been questioned seriously. Ten thousand dollars seems a long price for any hog, but with many hogs selling into the thousands, the new owners will undoubtedly make out on him. He

Jack's Orion King, the $10,000 Duroc

was purchased by Longview Farm of Lee's Summit, Mo., from Ira Jackson, Tippecanoe, Ohio. The price is the logical result of the unusual winnings made by hogs of Orion Cherry King breeding. Mr. Jackson built up in Ohio a herd that was prominent in that state and surrounding states, but Duroc breeders were inclined to use local blood in their herds.

There were various circuits of state fairs, and men coming to one fair in any circuit got acquainted with the line of stock being shown on that circuit and knew comparatively little about hogs shown on other circuits. The National Swine Show at Omaha changed this, as there the best stuff of the entire country came together. This is where the Grand Champions meet for the sweepstakes honor of the country. A son of Orion Cherry King was made Grand Champion boar at the 1916 show and numerous winnings were made by others of his progeny. In 1917 both Grand Champions as well as most of the first prizes were taken by stock by Orion Cherry King or his sons. The winning made these two years placed the Orion Cherry King blood in the forefront as the best blood in America. Jack's Orion King 2d is by old Orion Cherry King, who is now dead, and was out of a Jack's Friend dam. His second dam was by Cherry King, the sire of Orion Cherry King, so that this boar is line-bred Cherry King. The photograph speaks for itself as to the boar's type, showing the stretch and bone, arched back and upstanding character that is demanded in the modern type Duroc.—G. E. M.

Looking for Ayrshires

Ans. to C. M. R., Kiowa county: If you have never bred dairy cattle I would not advise you starting with registered stock. One should have considerable knowledge of cattle and how to get prices out of registered stock in order to make them pay. Following are the names of the Ayrshire breeders in this state:

A. J. Biby.....Goodpasture
Ducray Bros.....Grand Junction
V. P. McInroy.....Castle Rock
J. E. Powers.....Denver
George Owen.....Longmont
J. C. Osgood.....Redstone
Conrad Riester.Steamboat Springs
Edward O. Smith.....Carr
M. H. Smith.....Carr

For fifteen cows you will want a silo about 12 feet in diameter and whatever height is necessary to hold the feed for your stuff, depending on whether you feed part of the year or all of it. Figuring four tons of silage for the winter per cow, you would need only 60 tons, and a silo 12x30 is rated at 68 tons, but will hold only a trifle over 60. I would advise you building 12x32, if you intend to hold your herd at its present size.—G. E. M.

Sunscald in Hogs

Can you tell me what causes a scald around a hog's ears and shoulders? The hog eats well and was lively all the time; it is about all right now. A friend of mine requested me to ask you what would cause a hog to get down and lose control of the legs and suffer terribly if touched on the back. This hog got out of the pen and was all right and was chased thru some heavy sand by a dog and fell, and has been crippled three days. Eats good.—A. L., Las Animas county.

The scale on the skin of a hog may be caused by two or three different things. One very common cause, particularly on white hogs, is what is known as sunscald. The hot rays of the sun beating on the skin without coloring matter in it will kill the living matter in the cells and cause scurf and sores. Another cause is the mange mite which works under the skin and causes sores. If there is any reason to believe that a parasite is working on the skin, the animal should be dipped thoroly in some disinfecant. If it is due to sunscald, shade should be provided in the hog lot.

Paralysis such as you describe also may be due to different causes. It may be due to a definite germ infection known as Hemorrhagic Septicemia, which is killing many sheep, cattle and hogs in the state. It may also occur in some forms of hog cholera. Occasionally a hog will become paralyzed in the hind quarters without the front quarters or the general health of the animal being affected. The cause of this form of paralysis is not definitely known. I would judge that paralysis in the case you mention must have been due to an injury of the back, probably the backbone and spinal cord was hurt. Recovery is doubtful, and as paralysis from an injury such as that does not make the meat unfit to eat, I would suggest that the temperature of the animal be taken and if it has no fever, that it be slaughtered for use on the ranch.—G. E. M.

Keeping Flies Off Cattle

Answer to M. S., Phillips County:

Ointments and sprays to keep flies away from cattle:

One pound rancid lard, ½ pint kerosene. Apply with the hand.

Three parts fish oil, 1 part kerosene. Apply with small spray pump.

2 parts crude cottonseed oil or fish oil, 1 pint of pine tar. Apply with large paint brush.

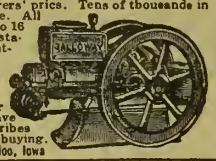
Fly poison: Bichromate of potash, 1 dram in 2 ounces of water. Add a little sugar. Not dangerous to human life.

Fly poison: One teaspoonful of formalin in ¼ pint of water. Keep it away from children.

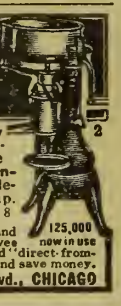
To quickly clear a room where there are many flies, burn pyrethrum powder and sweep them up.—Veterinary Dept., Colorado Agricultural College.

GALLOWAY
POWER SAVES LABOR

Buy direct from my factories, where I build a powerful, economical, reliable, perfectly designed Galloway Masterpiece Engine from the highest quality materials and sell to you at lowest manufacturers' prices. Tens of thousands in satisfactory use. All sizes from 1¾ to 16 h. p. portable, stationary, saw rigs, pumping outfits. They operate on GASOLINE OR KEROSENE. Also build manure spreaders, cream separators. 300,000 satisfied customers, some near you. Close shipping points save freight. My free catalog describes Galloway goods. Get it before buying. Wm. Galloway Co., Box 1825 Waterloo, Iowa



Only $2 DOWN ONE YEAR TO PAY



$38 Buys the New Butterfly Junior No. 2½. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here. 125,000 now in use. 30 DAYS' FREE TRIAL. Earns its own cost and more by what it saves in cream. Postal brings Free catalog-folder and "direct-from-factory" offer. Buy from the manufacturer and save money. ALBAUGH-DOVER CO., 2129 Marshall Blvd., CHICAGO

Hand Pull Lateral Gates

These gates prevent cutting the ditch banks in order to divert the water and put the water under complete control of the irrigator. They are durable, low initial cost, preserve ditches. May be attached to "Armco" iron pipe outlet conduit any desired length. No cement work required. Write for our free 125 page catalog, which illustrates and prices these gates, as well as more than 65 other articles for the irrigator including the "Armco" flumes, ditch lining, pipes, culverts, tanks, troughs and grain bins. THE R. HARDESTY MFG. CO. 1837 Market Street DENVER, COLO.

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$20.00 Sweep Feed Grinder. | $26.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO., 610 E. Seventh St., Topeka, Kansas

Specifications
Rating—Draw-bar H.P. 15 Belt H. P. 25.
Engine—Lauson-Beaver, 4 1-2 bore, 6 in. stroke.
Normal speed—950 R.P.M
Belt Pulley 18 in. by 8 in. 475 R. P. M.
Ignition—Dixie Magneto.
Carburetor and Fuel system—Kingston Gravity feed.
Cooling system—Parfex Radiator.
Speed, M.P.H.—low 1.3-4; plowing 2 1-2; high 2 1-2
Wheelbase—86 inch.
Total weight, less fuel, water oil and lugs 6000.

The LAUSON 15-25
DUST PROOF-ALL GEARS ENCLOSED

At a recent demonstration out West only two, wheel type tractors went up a 33% grade with all plows in the ground. One of these was the Lauson 15-25. All the leading makes were represented.

For twenty-three years the John Lauson Manufacturing Co., has beenmaking farm engines and has been making them so well that their reputation is second to none.

This experience has enabled them to build the Lauson 15-25 Kerosene Tractor so that it is years ahead of its competitors.

It has all the mechanical refinements of the best engineering practice combined with a ruggedness that makes it stand up under the hardest kind of service without annoyance of expensive breakdowns. **Durability** is built into the Lauson.

The frame is mounted on four wheels on the three point suspension principle. This gives flexibility without the danger of tipping on hillside work. The entire weight of the machine is sufficient to give good traction, without slipping and not so heavy as to cause packing of the soil. The front wheel crowds the furrow and requires no steering. The Lauson 15-25 will travel the entire length of the field without the operator touching the steering wheel.

Twenty-four Hyatt and Timken roller and ball bearings on the Lauson give it the name of the "full jewelled" tractor. **All gears**—including the bull gears are enclosed in a dust proof casing and run in oil. This reduces friction and wear to the minimum, saves fuel and increases draw bar pull.

Builders of Lauson Frost King Engines

For 23 years Lauson Frost King engines have been the standard of farm engine excellence—built in 2½ to 50 H. P. sizes.

THE JOHN LAUSON MFG. CO., 1128 Monroe St., New Holstein, Wis.

Vegetable oils for cooking are now being used so extensively that the days of the "greasy" hog are numbered. The consumer wants more lean meat in hams and bacon. Few eat the fat, but all enjoy the lean. Packers and retailers prefer the solid hog because they are worth more. You can produce the kind of hog that's wanted—without corn—by feeding

DOUGLAS CORN GLUTEN FEED

Corn Gluten has long been recognized as the safest and best feed for all livestock. It is the best of the corn for meat production, yet it is cheaper than whole corn.

Thousands of swine breeders and feeders are feeding DOUGLAS CORN GLUTEN FEED. They are patriotically conserving their corn for human food.

Your whole grain is needed by the Government. It is too valuable to feed to livestock. You should feed DOUGLAS CORN GLUTEN FEED and help win the war.

Write today for the new circular—"Prize Porkers Without Corn." It proves that DOUGLAS CORN GLUTEN FEED makes pork that nets you the largest profit.

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Manufacturers of Corn Products
CEDAR RAPIDS, IOWA.

The Grange

Offices 1616 Arapahoe St., Denver
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JOHN MORRIS, Golden, Colo., Master.
R. J. ALTIG, Boulder, Colo., Overseer.
C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 1616 Arapahoe St., Denver, Business Agent and Secretary.

Free moving picture shows are being put on by the State Grange for local Granges all over the state. These picture shows are of an educational and entertaining character and they can be put on in any hall, as the power is furnished by the Ford car which carries the machine. Local Granges desiring to have a show put on may get full particulars by writing to Secretary Otis E. Scruggs, Colorado State Grange Headquarters, Denver.

Between reels of an entertaining character pictures are shown which describe the benefits of the co-operative buying and the mutual fire insurance features of the State Grange.

The Colorado State Grange is doing constructive work for the benefit of its membership. Real service is being rendered to farmers by cutting the cost of supplies for them down to wholesale rates. This applies to heavy materials, such as coal, lumber, automobile tires and farm equipment of various kinds, as well as to clothing, shoes, dry goods and groceries of certain kinds. The privilege of buying at reduced prices is extended to every member thru the State Purchasing Agent's office.

Business has grown so that removal to larger quarters has been necsary. The State Grange now occupies an extensive establishment at 1616 Arapahoe street, Denver, using basement and first floor of a building 140x 25 feet. The front is utilized for offices and show room and the rear as a salesroom by the Grange Stores company. Here the buyer who holds membership in any local in Colorado may come and pick out his supplies at a big discount from prevailing retail prices.

The Grange is growing rapidly thruout the state. Nineteen new Granges have been organized in the last few months and many of the established Granges have increased their membership materially—some of them have actually doubled their number of members. These increases are directly due to the benefits that the farmer receives from membership in this organization, in a social and financial way. The dues are merely nominal, but the benefits go right to the practical side of farming, cutting the cost of living, giving the farmer insurance at cost and making him a member of the strongest, oldest and best farm organization in America.

By writing to the editor of this department, Mr. C. W. Swayze, State Lecturer, Stock Yards Station, Denver, any Colorado farmer may get full particulars about membership, where to join, etc.

The Darden Pomona picnic at Golden July 27th was well attended and everybody had a fine time. The day was spent in sports of various kinds and in the evening there was a patriotic address by Dr. A. H. C. Morse, pastor of the First Baptist church of Denver, whose eloquence inspired everyone to greater efforts in behalf of the nation. The degree team put on a fine drill. Following the patriotic session there was a dance in the armory.

Things that Are Vital in Seeding Fall Grains

(Continued from page 5)

it to be prepared, and what and why should there be any difference in the preparation of a garden and of our lands for maximum crops? Our gardens usually are well spaded, or sometimes deeply plowed. Who ever scratched the surface of his garden soil and had a good garden? Then, the ground is well worked over with a rake or harrow, seeds dropped in a straight row, either by hand or garden machine, and covered. Garden machines usually have a press wheel. If no machine is used the hoe is usually used to pat down and press the soil onto the planted seeds. In other words, our gardens are a good criterion to go by as to what we should follow out on the larger scale on the farm.

Undoubtedly under some circumstances occasionally the man who does not use press wheels with his drill may get better results than he who does, but using press wheels has too many advantages. The soil is compacted around the seeds, moisture is held where it does most good, seeds germinate quicker, air does not penetrate and dry out the soil as easily as in loose ground, young seedlings are not affected by extreme cold or heat, etc.

Farmers are perfectly right, tho, in at least two things relative to press wheels. They add to the cost of a drill and require more power; not very much of the latter. But why not consider the returns in better crops, and not only better crops, but we have the great satisfaction of knowing we have done our work right, and our growing crops can stand the different climatic conditions which they have to go thru from the time seed is planted till harvest.

Depth of Seeding

Another very important point that must not be overlooked is depth of seeding. Experience is something that cannot be considered alone here, because soil and climatic conditions vary in different sections of the country, but the following may assist one in doing the right thing. Light soils usually drain easily and do not hold as much water as heavier soils, assuming that the heavier soils have been deeply plowed. Light soils warm up quicker than heavier soils. Therefore, recollect that deeper sowing is permissible on light soils, also WHEN you sow must be taken into consideration. That is, if you can assume that right after sowing the weather will be warm, deeper sowing is the right thing, but if, on the other hand, cold and possible wet weather is likely, seeds are apt to rot if sown too deep. To make hard and fast rules suitable to all climatic and farming conditions is impossible. But the progressive farmer cannot go far wrong if he uses press wheels with his drill, sowing his fall wheat in a well-compacted (compacted not when it is wet) soil, at the end of August or beginning of September, using the best seed obtainable, properly treated by formaldehyde or blue vitriol (copperas), and the minimum quantity, say 30 pounds to 35 pounds per acre, of perfectly clean seed of uniform size. Farmers should know why they do this and that. Not to raise maximum crops under present opportunities is criminal. The world wants and needs every bushel of grain the United States can produce. So let us give a little more serious attention to our fall sowing and really study the condition of our soil and what one ought to do, then make up our minds to do it right and not say, as is sometimes said: "Oh, that is good enough, let it go at that."

I have seen many crops this season and, unfortunately, many part failures and some total failures. Most of these failures were due to not doing all the necessary work appertaining to raising good crops of grain; scratching the soil and calling it plowing, using mixed sized seeds, drilling too close to the surface in soil just moist enough to sprout the seeds but drying and killing the plants thru hot, drouthy weather following seeding. Let me repeat: farmers never had such an opportunity for making big crops of fall-sown grains and there has never been such a pressing necessity for putting in every possible acre to supply a hungry, fighting world.

Increasing Pork Production

The pig harvest has been pretty good out in the Haswell country, according to a letter from Barney Brothers, who specialize in Poland Chinas. Bob's Long Bessie, a half sister to the grand champion at the National Swine Show in Omaha is the prolific mother of her third litter. She was two years old in April and would weigh close to 600 pounds in show shape. Her last litter was nine pigs of which all but one are living. She has had 25 pigs in the three litters and 22 of them are alive and doing well. Mont Barney writes us that he thinks Bob's Long Bessie is doing her part in increasing meat production.

SATISFACTION ASSURED IN ADVANCE

It is a fact that Lalley-Light usually finds preference among those thoughtful farmers who are regarded as neighborhood leaders.

It is not hard to understand why.

The man who seriously looks into the electric light situation discovers that Lalley-Light has been in successful farm use for more than seven years.

He hears it well spoken of everywhere it is known.

He learns that faithful, year-to-year service and economy are the experience of Lalley-Light users.

He receives the impression that he would be entirely safe in investing in Lalley-Light.

He accepts these things as actual advance assurance of his own future satisfaction.

In reality they are exactly that. For Lalley-Light satisfaction probably approaches 100 per cent as closely as it can be approached.

Never was the need for Lalley-Light so imperative as now. Farm labor is scarce. Lalley-Light saves labor by supplying the power to do much necessary work.

Farm products and farm buildings are more valuable. Lalley-Light safeguards them by removing the fire risk entirely.

Lalley-Light brings to the farm a score of conveniences and comforts that only electricity from a wholly dependable plant can bring.

In addition, it has its own exlusive advantages which the nearest Lalley-Light dealer will gladly demonstrate and explain.

Write us for his name, and for complete details.

Look for the Lalley-Light demonstrating exhibit at your state or county fair this fall.

LALLEY ELECTRO-LIGHTING CORPORATION
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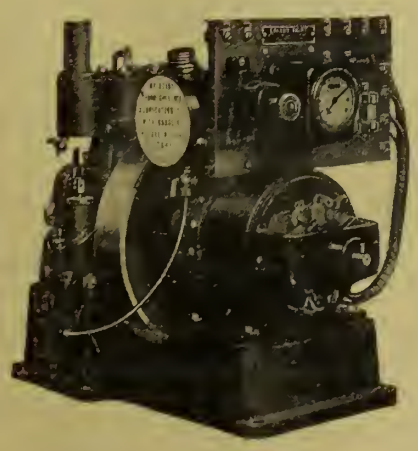

Generating plant is 27 inches long, 14 inches wide, 21 inches high. Storage battery is included in complete outfit.

LALLEY-LIGHT
ELECTRIC LIGHT AND POWER FOR EVERY FARM

Agricultural Tour of El Paso County Highlands

(Continued from page 3)

him several years ago, when he averaged 20 bushels all the way thru his fields, on a rainfall of only four inches during the growing season, the balance of the moisture having been stored thru summer fallowing. He has grown as high as fifty-seven bushels per acre on small areas where the snow lay particularly long.

The other specific object of the tour was an investigation of Petkus rye fields on several ranches. This variety, imported from Europe, was recommended for its heavy yielding power. One bushel of the seed was obtained in 1914 and now, in the fourth year since its introduction, fields are found all over the northern part of the county, from 6,000 to over 8,000 feet. Winter rye seems peculiarly well adapted to the high mesas, and Petkus fits into the conditions as if bred for the purpose. So the farmers are beating the Germans at their own game of raising rye as a bread grain.

The field shown in the accompanying photograph is on Kirk Brothers' ranch, known as the K-K. This is a combination cattle ranch and grain farm. Steers are finished for market on the grass which is of exceptional quality. Petkus rye is one of the special crops produced on this ranch, where it was first introduced.

Among other places where brief stops were made was the Paul-Murphin ranch, where the special field to be inspected was one of potatoes, planted and cared for by the Boys' Potato Club from the Myron Stratton Home in Colorado Springs. The boys are brot out to work as often as necessary by Superintendent Brady and they are producing a big crop of spuds on land of which they have free use thru the courtesy of the Paul-Murphin company.

Other stops included the Cheese ranch, where wheat harvest was in progress, the Gudger ranch, known as the Bar X, and the Immer and McBroom ranches. Nearly all of these farms were originally cattle ranches, with the free range in the pine hills as their principal asset. Gradually they have been developed into good paying farms, with much of the arable land under cultivation, but with a big reserve of pasture and wooded land held in permanent grass. Plenty of feed is grown in the way of silage corn, oats and barley, and the cash crops include, besides wheat and rye, pinto beans and potatoes. We saw one field of pintos on the Bradshaw ranch (over 7,000 feet) that looked as good as fields a thousand feet lower. Six thousand feet is considered about the limit of profitable bean production, but these farmers do not let altitudinal limits frighten them. Pintos seem able to accommodate themselves to the somewhat shorter growing season, in protected places and to ripen before the first killing frost in fall. I have seen fine pintos grown at 7,000 feet and over at the El Paso county agricultural exhibition during the past two seasons.

While growing weather does not start until after June 1st in the high country, there was little apparent difference in the progress of crops when compared with sections a thousand feet lower.

Comment by Farmer Putnam

(Continued from page 9)

used, because Hoover hain't got the miracle business down fine, but believe me, he's done wonders just the same. He kin have every bit of sugar, flour and meat that we kin spare. That's the sentiment of us farmers out here in the west and I guess most everywhere.

I seen nuthin' but wheat, rye, beans and other food crops on that trip and nary a farmer was kickin' about wheat prices. I reckon most of that hullabaloo about raisin' the price to $2.50 come from congressmen who thot they could make a hit with their farmer voters at home if they got the raise thru. It wouldn't a done 'em no good. The farmer has got as long a head on him as any politicians and you cain't git his vote on somethin' that ain't fair. We do have our kicks on prices of machinery, leather goods, substitutes, etc., and we don't hesitate to holler, but we got sense enough to know that the way to succeed in this war is to keep the price of bread at a fair level. Bread is the staff of life. Millions of people in these here United States and Europe don't produce bread, but is consumers of it. They work in lines that has to be kept up to help win the war, the same as farmin'. If you rob them on the price of bread, or try to git it so high they cain't afford to buy enough of it, you'll bring on a revolution.

Farmers wants a fair profit on their goods, but they realize that war conditions means hard conditions fur everybody and none of 'em wishes to make livin' any higher then it is fur their fellowmen. Of course, some people is profiteerin', but my first duty is to see that I don't try to do the same, and I got faith in our government to stop the robbery. If some feller in town tries to rob T. J. Putnam on prices, believe me they is a holler put in where it'll do some good. I keep a little black book on them cusses, and from time to time as I go on thru this vale of tears, they comes elections and such other opportunities where Putnam's vote and those of his friends counts, or they comes askin' me fur business, or help of some kind.

But here I am preachin' when I should be tellin' about the farm tour. I will close by sayin' that everything went off fine and that, so fur as I know, Josephine didn't have no fault to find with her Tom that day, exceptin' perhaps that he overloaded a little because Mrs. Paul kept urgin' and urgin' to eat more, as they didn't want to take nothin' back home. Hoover havin' asked us to clean up our plates, they wasn't nuthin' else fur me to do but keep at it till the grub was exhausted, and me and Rufus likewise.

THOMAS JEFFERSON PUTNAM.

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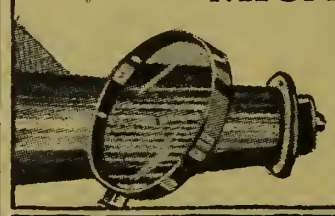

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Farm Home Department

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Farm women are paying more attention than ever to the cost of living. It has been impressed on them in the last three years, and more especially in the last year, that extravagance in the household is inexcusable, as much so as is waste and carelessness in the conduct of the farm. The farmer has been forced to the keeping of accounts by the provisions of the income tax law and the farm wife is following suit, because her share of management now bears a direct relation to that of the

Household Expenditures.

Date 1918	Item Amount and Kind	Value
Apr 2	2# Coffee	.50
2	Shoes, ma	4.50
2	Lamp chimneys	.15
2	Flower seed	1.00
5	24# flour	1.70
5	1 doz. lemons	.30
5	2# cheese	.60
5	U.S. Savings certificate	4.15
7	Church	.50
5	Notary fee	.25
5	Subscription (1 paper)	1.00
5	Telephone bill	2.20
8	Hair cut, pa	.25
9	Emma washing	.60
10	Ice bills	1.50
13	Movie, pa & ma	.20
	Hitching	.10
	Candy and cigars	.15
	Oswald's Henry	1.25
14	Medicine	1.00
16	Pencil	.05
	1 Bal Brownie	.13
	Life insurance	25.00
	5# sugar	.45
17	Ma, Mrs. Aunt Susie	3.20
	Catarrh treatment	1.00
	Watch repaired	1.25
	Dinner in town	.40
20	Daily paper (Apr & May)	.50
	5# Oatmeal	.35
	2# prunes	.20
	2 packs White times	.10
	Total	54.53

Simple Household Method of Accounting

farm as a whole. In other words, we are beginning to realize that "every penny counts," and to properly count the pennies, we need some system of accounting.

On this page will be found a reproduction of a simple system of keeping household accounts. This system, in connection with a monthly summary arranged to show the totals in the different classes of expenditures, is essential to show the way to economy. The cut is reproduced from Farmers' Bulletin No. 964, just issued by the United States Department of Agriculture. Its title is: "Farm Household Accounts," and it was compiled by W. C. Funk. Copies may be had free on application to the Department of Agriculture at Washington, asking for it by number and title, as above given.

Mr. Funk points out that household expenses on the farm are very intimately associated with the business of the farm itself. The farm normally supplies the material which otherwise would become a household expense. The household, in turn, very often furnishes board for farm labor, which would otherwise be a farm expense. Merely from the standpoint of keeping track of household expenses as related to the farm business, household accounts are desirable and should serve to supplement and round out farm accounts. Their value goes beyond this, because such accounts are an aid to economy, because they show where the waste is.

Over 60 per cent of the food and over 50 per cent of the fuel consumed by farm families is produced on the farm. It will be of interest to every farm family to discover, thru the keeping of a household account, how far above or below this they are running.

Modernizing the Home

Farm women who want indoor toilet, bath and kitchen sink in the home may have complete advice on the installation of these improvements by dropping a line to Frank P. Goeder, of Colorado Agricultural college, Fort Collins. Mr. Goeder says:

"The concrete septic tank solves the problem of disposing of house wastes where the modern city sewer is not to be had. It is intended only as the best substitute for a city sewerage system and when properly built has many advantages over the cesspool. The septic tank will transfor the wastes from the house plumbing, and their final disposal will be in a safe and simple way. Concrete septic tanks are easy to build and not expensive. The cost of operation and maintenance is very small, and they give satisfactory service indefinitely."

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2512—Modish Dress in Silk or Cotton. The tunic may be omitted, or it may be of contrasting material. This model is good for foulard, taffeta, lawn, batiste, gingham, chambray, gabardine, serge, wool or silk Jersey cloth. The sleeve may be finished at elbow or wrist length. In 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6 yards of 40-inch material. The skirt measures about 2 yards at the foot.

2502—Smart Afternoon Model. Easy to develop, nice for soft batiste, crepe or foulard, and just as good for satin, gabardine, serge or linen. As here shown, white voile was combined with cluny insertion. The girdle is of pale blue satin. The tunic is finished separate from the skirt, and could be made of contrasting material. White serge with braiding or embroidery would be nice for this model. Cut in 3 sizes: 16, 18 and 20 years. Size 18 will require 6¼ yards of 40-inch material. The skirt measures about 1⅞ yards at the foot.

2501—Pretty Model in Tunic Style. In this instance white voile was employed, with Irish insertion and edging for trimming. The tunic portion is gathered to the waist in pointed outline. The fullness at the waistline is held in place by a belt. The two-piece skirt is finished separately. Cut in 3 sizes: 12, 14 and 16 years. Size 14 requires 4⅛ yards of 44-inch material.

2508—Cool and Practical. It is composed of a separate guimpe that may be buttoned to the skirt, which is finished with a suspender waist. Lawn, crepe and batiste are nice for the guimpe, and the same materials may be used for the dress, which is good also for serge, gabardine, gingham, seersucker, chambray and linen. Cut in 4 sizes: 4, 6, 8 and 10 years. Size 8 requires 2½ yards of 36-inch material for the dress and 1¾ yards for the guimpe.

Cold Meat Recipes

Calf's Head-Cheese

1 calf's head
1 tablespoon chopped herbs
Pepper
Salt

Put calf's head in enough water to cover, let come to a boil and boil gently until meat leaves the bone. Take up with a skimmer, put into an earthen bowl, season with salt, pepper and chopped herbs. Lay a cloth in a colander, put minced meat into it. Fold a cloth over the top, weigh down with a plate. When cold, slice and serve with mustard.

Western Electric POWER and LIGHT

Let the Western Electric man show you the kind of plant you need

THERE is as much difference in electric light plants as there is in automobiles or gas engines. No one type is equally suited to all farms, and your power and light requirements may be different from your neighbors'.

Like every farmer, you want electric power and light, but you don't want an outfit either too large or too small for your needs. Start right! Get all the facts! *Let the Western Electric man show you the kind of plant you need!*

Our business is bigger than the mere selling of any particular electric plant. We sell electricity for the farm. There are all sizes and types of Western Electric outfits. We are not forced by policy to sell one type for every purpose. We can sell you an outfit with or without a gas engine.

If you have a gas engine, it may be a needless expense to buy another engine as a part of an outfit. On the other hand, if you want an outfit with built-in engine, the Western Electric man will tell you about a new outfit of this type ready for delivery this Fall. In any case, it is just a matter of fitting our equipments to your needs.

More than forty years of electrical manufacturing experience is back of all these Western Electric Power and Light Outfits.

Make your entire equipment "Western Electric." You can get Western Electric Motors, Water Systems, Milking Machines, etc., to save labor on the farm; as well as Irons, Vacuum Cleaners, Washing Machines and other electrical helps to save time and labor in the home.

There is a Western Electric man near you. Mail the coupon for Booklet No. WFL-7, and we will tell him to get in touch with you.

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I want to know more about your electric plants, so please send your book No. WFL-7, "Power and Light."
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Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Poultry and eggs are surely coming into their own. Not even Farmer Putnam ever saw such prices as now prevail, and while prices are high in the west, they are 25 to 50 per cent higher in the extreme eastern part of the country. On a recent visit to Washington, D. C., the editor of the Reliable Poultry Journal found prices for broilers at retail as follows: May 31, 80c per pound; June 7, 70c per pound; roasters, 5 to 6 pounds in weight, 45c per pound; and old hens, 40c per pound. These fowls were complete except for the feathers; the consumer paying for head, feet and entrails.

In June broilers were bringing 40 cents, live weight, on the Denver market, the highest price we can remember for that time of the season, while roasters are proportionately higher than in previous years. There will be no drop in prices this year such as we have always experienced. Poultry is going to be rather scarce the country over, and that fact, added to all the adverse conditions prevailing, will hold prices very firm and help make up for high feed cost.

Doubtless the high prices will greatly curtail the amount going into cold storage, but just what this may do to the figures it is impossible to say. However, we do know we are living in most uncertain conditions and safety first should be our motto. Close culling should be in order more than ever, and two-year-old hens, when they get thru laying, should go to market promptly. We have always advised and practiced selling cockerels at broiler size; it may not be the thing to do now, but we are disposing of every chick and hen as fast as possible. Prices, per pound, may stay up pretty well, thus warranting us in keeping all young stock over, but again, prices may drop enough to counterbalance the gain in weight. We have always banked on the pullet, and to give her every chance to mature to laying size as early as possible, we cull very closely during late summer and early fall, this giving her the best possible conditions.

Generally speaking, eggs in the Rocky Mountain region were much higher during the past season than ever before. Even with the high prices of feed the hen has returned a good profit during the past four or five months. The farmer who has early hatched chicks and who will cull closely now, who will provide good winter quarters, is bound to make a good profit next winter. Two-year-old hens, old cocks, weaklings, unpromising pullets should go to market; the best of the year-old hens, all early pullets should get good care, free range and clean quarters.

Compulsory Candling

Reports now being received by the U. S. Food Administration from egg-producing sections indicate that the practice of compulsory candling is resulting in improved quality. Since June 1 all egg buyers in the United States have been included under a system of licensing which requires that all eggs be candled at time of purchase and that bad eggs be rejected.

Altho in the past the importance of candling has been repeatedly pointed out, the practice has been for the most part a voluntary matter among country egg buyers. As the result, producers who sold eggs of poor or doubtful quality received as much for them as was paid in the same locality for the fresh, first-quality product—an obvious injustice and no incentive toward improvement in quality.

The general level of prices to producers was consequently depressed in order to make up for the losses from bad eggs which had little or no market value.

Experience during the summer months of the past five years shows that about 25 per cent of all eggs were a total loss and 40 per cent materially depreciated in food value. The Food Administration has considered such conditions lead to a vicious waste and the system of compulsory candling now in force places every lot of eggs offered for sale on its own merits. Handling large quantities of eggs which must be discarded as unfit for food is furthermore a needless burden on the railroads and all who deal in eggs.

Every receiver of eggs (including hucksters) must now candle all eggs carefully and include an egg candling certificate bearing his license number with every case of eggs passed on to the next handler. Wasteful practices in the distributing trade are also prohibited and wherever possible eggs should be kept at a temperature below 60 degrees. Altho penalties are provided for violation of these orders, the Food Administration relies principally on voluntary effort and the support of the people in carrying the regulations into effect.

Egg Consumption Increases

Reports on the nation's egg supplies lately received by the U. S. Food Administration show that the number of eggs in storage in the United States on July 1 was practically the same as on July 1, 1917. With this condition, it is interesting to note that consumption had increased about 17 per cent, indicating that production must also have increased in about the same degree. Imports and exports are a negligible factor compared with the enormous size of the egg trade within the United States.

Rooster Has a Cough

I am writing you to find out if you can tell me what to do for a rooster we have. He coughs and it sounds like the noises made by a child in whooping cough. This is the nearest I can describe it. It sometimes is worse than at others. He appears healthy and vigorous other than this. My chickens have clean, fresh water at all times, clabbered milk, cracked corn for grain, plenty of range, and they are all fat, healthy birds. We would like to keep him another year, as he is a nice rooster.—Mrs. M. M., Kit Carson County.

I am sorry that it is impossible to tell you what is the trouble with your rooster, but from the description we would only have to guess what the matter is. The chances are that the trouble is brought on by a cold similar to that a human might experience, altho there is a bare possibility that some obstruction in the throat is causing the coughing. We have had a very few cases of this sort, but have had quite a few cases during many years of a cough being brought on by cold or some catarrhal affection. If the bird is active, healthy and eats well, there is no particular occasion for alarm, especially at this time of year. If he shows any signs of failing in strength or refusing to eat or becoming inactive, then it might be well to dispose of him unless you can locate the trouble. If the breeding season is over, I would suggest that you pen him up in a small space, furnishing him very dry conditions, and not an over supply of food, with green feed in abundance. If you wish to try treatment, give him a two-grain capsule of quinine once a day for four or five days. Should the trouble spread to other fowls there might be occasion for alarm, but not in just the one case.

When Is the Right Time to Cut Your Alfalfa?

(Continued from page 4)

Where the sprouts are watched too closely very often the crop has not reached the proper maturity at the time it is cut. When the alfalfa is cut too early, or before the proper maturity is reached, the yield is poor on account of the water content being very high at that time. From my own observations I am of the opinion that the proper stage is to cut when the blossoms are about two-thirds out. At this time the hay is in a good physical condition; not too woody and still will yield well, as the water content is not so high at that time. I believe with Professor Call that the height at the bottom has very little to do with the yield of the crop. I base my information for this upon the result of our hog pasturing trials, where we encouraged the clipping of the alfalfa as soon as it is too high for good hog feed. Where this is done young shoots immediately spring up and one notices very little difference in the yield of pasture.

Too much emphasis cannot be laid on the fact of cutting before the hay becomes too woody. There are farmers in this locality who cut only two crops a year because they feel that in so doing they get a larger yield per acre. It is apparent that they get more bulk, but the condition of the hay is very poor, as the stalks are woody and are not relished by livestock nearly so well as when it is cut at the proper stage.—H. A. Lindgren, Agriculturist, Uncompahgre Project, U. S. Reclamation Service.

In Garfield County

Our farmers commence cutting the alfalfa when in early bloom—that is, when a few blossoms can be seen here and there over the field. In the work done at the Utah Experiment Station, the proper time to cut the alfalfa is described as when in early bloom. At this state the woody fiber is low, and the protein high; as the growth advances you get the reverse condition.—R. C. Allred, County Agriculturist, Garfield County, Colo.

Put the right food on the home table and the camp table will take care of itself.

CATTLE FEED

IF we are on a self-sustaining sugar basis within the next twenty years, the beet sugar industry will be producing livestock feed in the form of by-products annually in sufficient quantity to fatten enough sheep to make a procession — ALL WOOL IF NOT A YARD WIDE — LONG ENOUGH TO MORE THAN CIRCLE THIS OLD GLOBE OF OURS—and if all this feed was fed to cattle in one year it would make a procession of fat cattle that would reach almost from New York to Yokohama by the way of San Francisco.

And we are fattening stock in successful competition with the best "corn fed of the rain belt" as a great by-product of this industry.

But we are doing more than that too.

We are learning for ourselves, and proving to the United States that the soil and climate and irrigated lands of the Rocky Mountain Region are remarkably suited to this modern phase of the sugar industry.

And it is well worth our while as a people to know that by the encouragement and increase of the beet sugar industry we will be helping to make the United States economically independent of all the world.

That **fact** should be part of our daily thought and strong conviction.

The Great Western Sugar Co.

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

640-ACRE HOMESTEADS—BOOKLET. F. Duff, Casper, Wyo.

WANT TO HEAR FROM OWNER OF FARM OR fruit ranch for sale. O. O. Mattson, St. Paul, Minn.

GOVERNMENT LANDS—CALIFORNIA, OREgon. Booklet-stamps. Joseph Clark, Sacramento, California.

WANTED—TO HEAR FROM OWNER OF farm or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

DAIRY AND STOCK RANCH, 820 ACRES. Average $300 per month income; good market; $4,000 cash. Jacobs Dairy, Santa Fe, N. M.

HOMESTEAD LANDS UNDER DITCH, CLOSE to Denver. Timber, coal, finest wheat land. Kanner Land Co., 427 Ernest & Cranmer Bldg., Denver, Colo.

FOR SALE OR TRADE—40 ACRES GOOD land three and one-half miles southeast of Aitken, Minn. $22 per acre. C. B. Deniger, Box 243, Canby, Minn.

I HAVE CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give description, location and cash price. James P. White, New Franklin, Mo.

ATTENTION, LAND SEEKERS—THE FINEST grazing and farming land in the state of Colo., from 20 to 50 miles from Denver. Can be bought at $15 to $25 per acre; good terms. Write us for particulars. The Parker Land & Cattle Co., Parker, Colo.

144 ACRES OF DEEDED LAND LOCATED 3 miles from town, under old established irrigation ditch, not bonded, all fenced, good house, stable for 15 head of horses, good well and cement stock tank, good cement cellar, lays good and good soil. Price $30 per acre. Also 160-acre school lease adjoining the above land at $200. J. R. Anderson, Ft. Morgan, Colo.

CATTLE AND LANDS FOR EXCHANGE AND SALE

WILL TAKE $40,000 FOR $80,000 VALUE IN 600 acres improved, hay and alfalfa and agricultural lands and also the pasture lands adjoining the government preserve and 300 head pure bred Hereford cattle, for $20,000 cash and $20,000 back on the property; low interest and long time. Also might consider selling one-half the land and cattle on same terms. Address Owner, Box 35, Hillside, Fremont County, Colorado.

POULTRY

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BABY CHICKS—BARRED ROCKS, REDS, White and Brown Leghorns. 100, $12, prepaid; 40, prepaid, $4.75. Safe arrival guaranteed. Booth Hatchery, Clinton, Mo.

SHANKS ORPINGTONS—TRAPNESTED WINter layers, farm raised, state winners. Cocks, cockerels, hens and pullets for sale. Write your wants. A pleased customer or no sale. J. M. Shank, Route 2-A, La Junta, Colo.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—MILKING SHORTHORNS. W. A. Wight, Las Animas, Colo.

FOR SALE—20 HEAD OF SPRINGING, HIGH grade Holstein cows. Wilson Counts, Hasty, Colo.

HOLSTEINS—REGISTERED BULL CALVES, Johanna and Pontiac sires. Prices right. L. W. Curtis & Sons, Sedalia, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Field, Sterling, Colo.

FOR SALE—HIGH-GRADE HOLSTEIN HEIFER calves, 6 weeks old; best breeding; $30 prepaid. Herbert Taft, Whitewater, Wis., Rt. 2.

FOR SALE—5 REGISTERED HEREFORD bulls, 11-13 months old are left, at $125-$175. All two-year-olds are sold. Good markings and bone. Anxiety fourth breeding. J. O. D. Ranch, Aroya, Colo., on U. P. R. R.

THRIFTY HOLSTEIN CALVES, EITHER SEX, practically pure-breds from high producing dams and registered bulls, five to seven weeks old, $30; express prepaid to your station. Safe delivery and satisfaction guaranteed. Also 50 registered cows and heifers and 100 high grade young cows and two-year-old heifers. Magee Dairy Farm, Chanute, Kans.

HOGS

REGISTERED BIG TYPE POLAND CHINA hogs. B. F. Nottingham, Des Moines, New Mex.

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

DUROC JERSEY HOGS—THE BIG BONED, large prolific type. Young gilts by Orion Cherry King 15th out of big sows Defender and Coe breeding. We can also sell some extra large bred gilts. Not how cheap, but how good. We would like to have you visit the ranch and see for yourself. All mail orders filled with the proviso, "Money back if not satisfied." J. O. D. Ranch, Aroya, Colo., on U. P. R. R.

REGISTERED DUROCS—I HAVE A FINE LOT of boars and gilts about two months old. They are all sired by my Pathfinder boar and from my best sows. $15, including registration papers and crating. A few registered Tamworths; they are a little older and will cost a little more money, but they are just as fine as grow; also a two-year-old Percheron stallion that is right in every point. Price, $300. Dr. Frederick W. Culver, Longmont, Colo.

SEEDS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

PLAINVIEW NURSERY FOR SALE—ONE OF the best paying businesses in the country. A good stock of trees and a good trade. Well equipped for growing nursery stock. Plainview Nursery, Plainview, Texas.

LUMBER

LUMBER, LATH, MILL WORK. GET OUR direct-to-consumer prices before building. Catalog, plan book free. Contractors Lumber Supply Co., 443 Lumber Exchange, Seattle, Wash.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

TIRES — FORD, $6.50. LARGER SIZES equally low. Lowest tube prices. Booklet free. Economy Tire Co., Kansas City, Mo.

FOR SALE—WELL DRILLING RIG, EQUIPPED with gas engine, 350 feet capacity, good order. For particulars address P. S. Hodgkins, 3905 Quitman St., Denver, Colo.

HELP WANTED

OPERATIVES WANTED; EXPERIENCE UNnecessary. We instruct you. Travel. Make secret investigations. Salaries, expenses. Hartley Detective Agency, St. Joseph, Mo.

MEN, WOMEN, 18 OR OVER, WANTED IMmediately for U. S. Government war positions. Thousands clerical positions open, $100 month. Easy work. Write immediately for list positions. Franklin Institute, Dept. T172, Rochester, N. Y.

Colorado Fair Dates

Boulder County Fair, Longmont, Sept. 3, 4, 5 and 6.

Arkansas Valley Fair, Rocky Ford, Sept. 3, 4, 5 and 6.

Adams County Community fairs, West Point school house, Sept. 10; Antelope Flat Grange hall, Sept. 11; Central Valley Grange hall, Sept. 12.

Adams County Fair, Brighton, Sept. 17, 18 and 19.

Logan County Fair, Sterling, Sept. 10, 11 12 and 13.

Weld County Fair and Tractor Show, Greeley, Sept. 18, 19 and 20.

Penrose Community Fair, Fremont county, Sept. 19.

Huerfano County Harvest Festival, Walsenburg, Sept. 18, 19, 20, with sale of purebred cattle on closing day.

Routt County Fair, Hayden, Sept. 25, 26 and 27.

Douglas County Fair, Castle Rock, Oct. 8, 9, 10. The closing day will be a farm sale day.

Wilson Community Fair (Las Animas county), Sept. 25, 26 and 27.

Lincoln County Fair, Hugo, Sept. 26, 27 and 28.

Larimer County at Loveland, Aug 27 to 30.

New Breeders' Association

Shorthorn breeders in Routt and Moffat counties have organized the Northwestern Colorado Shorthorn Breeders' association, with an initial membership of twenty. Officers have been elected as follows: Walter H. Duff, president; J. Wilson Carey, vice-president; Carr W. Pritchett, second vice-president; Floyd Frazier, third vice-president; Terry J. Miller, secretary-reasurer. The organization meeting was held on the Maxwell-Miller ranch near Trull, and it was started off with distinguished assistance, including Frank Tomson, editor of the Shorthorn in America, and D. D. Patton of the Shorthorn World, who went over to the northwest country after attending the great Warnock sale at Loveland. T. J. Miller, who was at the sale, persuaded them to make the trip into what was to them new Shorthorn territory, where wonderful progress has been made with this popular breed in the last few years.

THE PLATTE RIVER CATTLE COMPANY

DENVER, COLORADO

PURE-BRED

Hereford

BULLS

We Have on Hand and For Sale

250 Head Yearling Bulls

100 Head Two-year-old Bulls

Good Bone, Colors and Markings
Fine Condition for Service

Write or phone us regarding these Bulls. It will be worth your while.

715 E. & C. Bldg. Phone Main 3989

406 New Live Stock Exchange Bldg. Phone Champa 4793

HEREFORDS FOR SALE

Only one young Hereford bull left for sale, Heir's Successor, No. 614072, dropped September 30, 1916. Ready for service. Sired by Heir's Anxiety, No. 359788, the sire of Morris, Grand Champion steer at the Western Stock Show, 1918, who sold for over $800; dam, Winifred, No. 228963, a daughter of Keep On. This is a strong, growthy young bull, not a show bull in all respects, but will make a good herd sire for a small purebred herd, or will fit in well on the range. Price, $400.

We also offer a nine-year-old cow, Gipsy, No. 316045, with a good September bull calf at foot by Heir's Anxiety. Price, $350, if taken at once. Rebred to Heir's Anxiety. Calf alone will be worth the money by fall.

ANIMAL HUSBANDRY DEPARTMENT

Colorado Agricultural College FORT COLLINS, COLO.

High Class Jerseys and Durocs

"THE WESTERN HOME OF THE MAJESTY'S"

Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the other day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, better get a Majesty bull calf while the getting is good. I have them. Also a few fall boars, splendid good ones, at right prices. I will have something still more interesting to tell you very soon about Majesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

NATIONAL WESTERN
First Annual

Ram Sale

DENVER

Sept. 3-4-5-6, 1918

Imported and Domestic

Stud Rams Range Rams

REGISTERED EWES

An Opportunity to Secure Breeding Sheep of Quality

Rambouillets Hampshires
Shropshires Cotswolds
Corriedales Lincolns
Oxfords Karakuls

Under the Direction and Supervision of

THE WESTERN STOCK SHOW ASSOCIATION

For Particulars Address the Secretary

FRED P. JOHNSON

Union Stock Yards, Denver, Colorado

Colorado State Fair

Every department of the governmental war work and every department of government of interest to the people will be represented in the mammoth war display which the United States government will bring to the Colorado State Fair, September 23 to 28, at Pueblo. This display makes a complete exposition in itself and is the most pretentious show ever collected by a political government. Motion pictures of the war taken at the battle front will be a feature.

DRAFT HORSES AND BEEF CATTLE

I can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

Goodwin Jersey Farm

Has for sale two bulls 7 and 9 months old. Excellent type and breeding. Priced very reasonable. Write for photo and breeding.

W. W. Goodwin, R. F. D. No. 2, Canon City, Colo.

HOLSTEIN CALVES

Choice, high-grade, beautifully marked heifers or bulls, 5 weeks old, $20.00 crated f. o. b. cars. Write

W. C. KENYON & SONS, Box 39, Elgin, Ill.

Shorthorn and Polled Durham Cattle

Valentine's Last, X12316, 452008 at head of beef herd. Claywood White, 427350 at head of milk type.

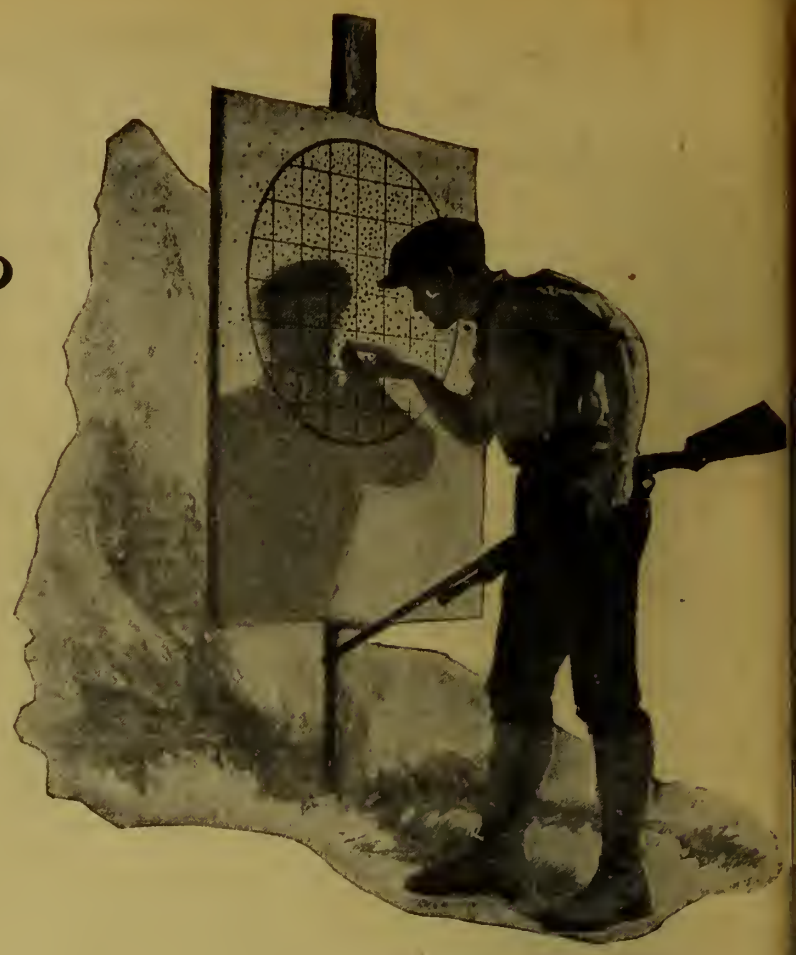
STATE INDUSTRIAL SCHOOL
Golden, Colorado

$25 HOLSTEINS $25

Five weeks old 15-16 pure, mostly white, $25 crated.
Two months old, $40.
Registered Bulls, two months old, best quality, $70.
Two-year-old springers, $125.
Cows crated, $150. Car lots write us.
Buy the best, it pays in the end.

Dr. J. A. Roberts Stock Farms
Oconomowoc, Wis.

How many kills to YOUR *shot pattern?*



MOST hunters agree that three shots or more are essential to a *kill*. Less than three may mean a *cripple*, no matter what the size of shot or its velocity. Hence uniform pattern, i. e., an even spread of shot is essential to successful shooting, in the field or at the traps.

The secret of good patterns is in the *control* of the powder explosion. Good, evenly distributed patterns are the direct results of a correct system of wadding scientifically adjusted to the bore of the gun and the load. The wadding, like the piston head of a gas engine, must give the explosion something solid to work against, so that the shot may be *pushed* out evenly.

It must expand and fill the tube of the barrel, completely sealing in the gas behind it. No gas must escape to scatter the shot.

It must offer just the right amount of resistance to the explosion so as to develop uniform pressure and high velocity without danger of jamming the pellets out of shape at the "choke" or muzzle constriction.

The Winchester System

Winchester Wadding is the result of repeated experiments to determine the most efficient control of the gas blast.

The special construction of the Winchester *Base Wad* gives what is known as *Progressive Combustion* to the powder charge.

Combustion spreads instantly through the powder charge. By the time the top grains of powder become ignited the *full* energy of the burning powder behind is at work.

Though the explosion is almost instantaneous, it is none the less *Progressive*, the final energy and maximum *velocity* of the completely burned powder being developed at the *muzzle* where it is most needed.

Meanwhile, under the heat and pressure of combustion, the tough, springy, *Winchester Driving Wad* has expanded to fill the barrel snugly all around. No gas escapes. It is completely sealed in. The wadding *pushes* the shot evenly.

At the muzzle the shot pellets slip out without jamming while the wadding is checked for a brief interval by the constriction of the muzzle. *It follows some distance behind the shot pattern.*

The shot cluster travels on unbroken by gas blast or wadding and makes the hard hitting, uniform pattern for which Winchester shot shells are world famous.

Fish Tail Flash. All Winchester smokeless shells are made with the new Winchester Primer—the quickest and most powerful shot shell primer made. Its broad *fish tail* flash gives even and thorough ignition. Every grain of powder is completely burned up before the shot charge leaves the muzzle.

The Crimp. The required degree of pressure necessary in seating the driving wads is worked out in combination with the *hardness* or the *softness* of the *crimping* required for any particular shell.

Waterproofing and lubrication. In the cold damp air of the marshes, or under the blazing sun at the traps, Winchester shells will always play true. Winchester waterproofing process prevents them from swelling from dampness. Special lubrication of the paper fibres prevents brittleness and splitting in dry weather.

Uniform shells. From primer to crimp, Winchester shells are constructed to insure the maximum pattern possible from any load and under all conditions. $100,000 is spent annually in the inspection and testing of finished shot shells. 25,000,000 rounds of ammunition are fired every year in testing guns and ammunition.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps be sure your shells are Winchester Leader and Repeater for Smokeless; Nublack and New Rival for Black Powder. Write for our Free Booklet on Shells. **Winchester Repeating Arms Co., Dept. WC-1, New Haven, Conn.**

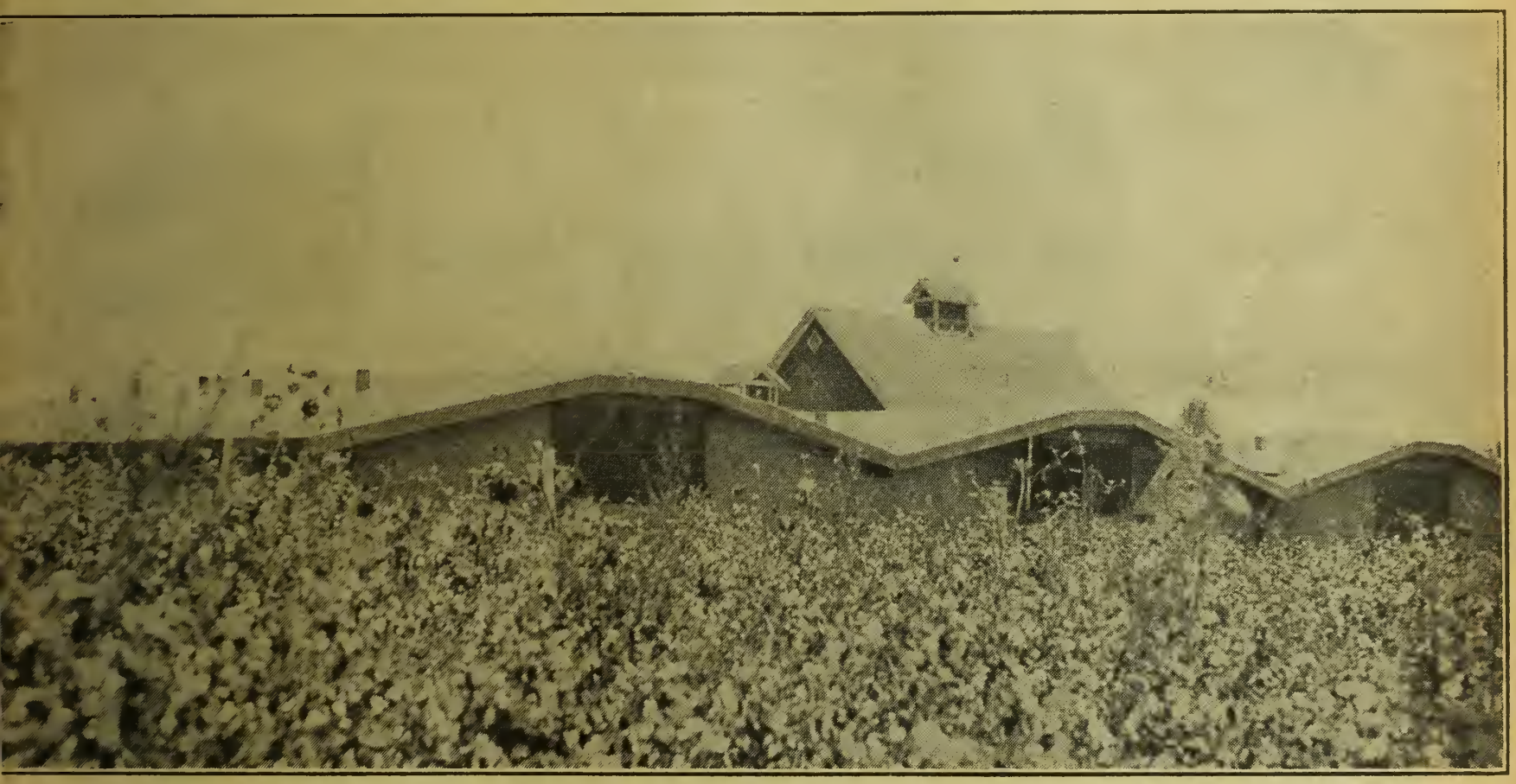
The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where the wadding is checked by the "choke" or constriction. Shot cluster travels on ahead unbroken. Actual test target 320 pellets out of 431 or 74% of the shot charge (1¼ oz. of 7½ chilled) inside a 30-inch circle at 40 yards

WINCHESTER

World Standard Guns and Ammunition

WESTERN Farm Life

Vol. XX | Denver, Colorado, September 1, 1918 | Semi-Monthly



Battery of Adobe Potato Storage Houses on a San Luis Valley Farm

DO YOU recall the last few days of October, 1917, when a sudden zero spell swept over the Eastern Slope of the Rockies and took the cream right off the top of our expected profits on potatoes and onions?

A little later you DO remember—you can never forget it—how we all yelled ourselves hoarse for cars and couldn't get them because of a conspiracy between a disorganized railroad management, a terrific winter and a stern demand that rolling stock be kept moving with war munitions and coal, to the exclusion of practically everything else.

It was our first winter in the war. Everything seemed to be going wrong. We had a big crop of spuds—biggest in the history of the Rocky Mountain region. It cost more to grow that crop than we ever had paid out before. Burlap sold like silk and we paid labor for picking almost by the piece. There was nothing the matter with the demand, but everything the matter with distribution. All we could do was to wait for cars and keep waiting.

It is history how we finally pulled thru the season and got rid of most of our spuds, due to the heroic efforts of the Colorado Office of Markets. How we lost much of our onion crop is not a cheerful story—and it's easy to shed tears over onions anyway.

The point is just this: The grower who was forehanded, who had a storage house like the above, or a dugout, properly built out of adobe, concrete, boards, timbers or whatnot, but properly built with regard to temperature and ventilation, stood the strain of war conditions and came thru the season, if not with a large profit, at least without losing money. The other fellow, be he potato grower, orchardist, or onion grower, should have learned from last winter's experience that it pays to provide proper storage.

This country has sent a million and a quarter men to France up to the present time; as many more are waiting to sail; the winter months will find double that number in the cantonments, on the sea or over in Europe, on the west front and on the Russian fronts. These millions must be fed, and it is up to us to do it. For patriotic reasons and for our own pecuniary benefit food crop saving thru farm storage is essential.

Expert advice on the building of farm storages may be had free on application to the Colorado Office of Markets, Room 26 Custom House, Denver. Only a few weeks remain for making final preparations to get the crop under cover. Remember last fall, and bear in mind that, while car distribution is better organized, the demand for cars for the movement of fuel, munitions and troop supplies of all kinds is greater than ever. In the mountain states, remote from the big markets, with natural transportation difficulties to overcome even in normal times, the grower of semi-perishable fruits and vegetables who fails to provide farm storage is cutting his own business efficiency by one-half.

A Little "Tank"—for Farm Work

The Cleveland Tractor is built on the same principle as the wonderful European battle "tanks."

It travels on its own tracks, laying them down and picking them up as it goes along.

This efficient type of construction makes the Cleveland *specially* valuable to farmers, as it enables them to work practically *anywhere*—over almost *any kind* of farm land.

They are being operated over gullies, ruts and ditches, through soft soil, wet clay, sand and gumbo—without sinking or floundering. *They do not pack the soil.*

They are working under and among small trees, close up to fence corners, on hillsides and over rough ground with much better results than can be obtained with horses or with any other type of tractor.

And they are working much *faster.*

Thousands of Cleveland Tractors are helping to increase the production of food demanded by war conditions.

The Cleveland, pulling two 14 inch bottoms—which it will do under average conditions—plows 3½ miles an hour—eight to ten acres a day. This is equal to the work of *three* men and *three* good three-horse teams.

The Cleveland steers by the power of its own engine; it requires but slight effort on the part of the driver. Only one man is required to operate it. 12 horsepower is developed at the drawbar and 20 horsepower at the pulley. It is a constant source of tractive and stationary power for twelve months in the year.

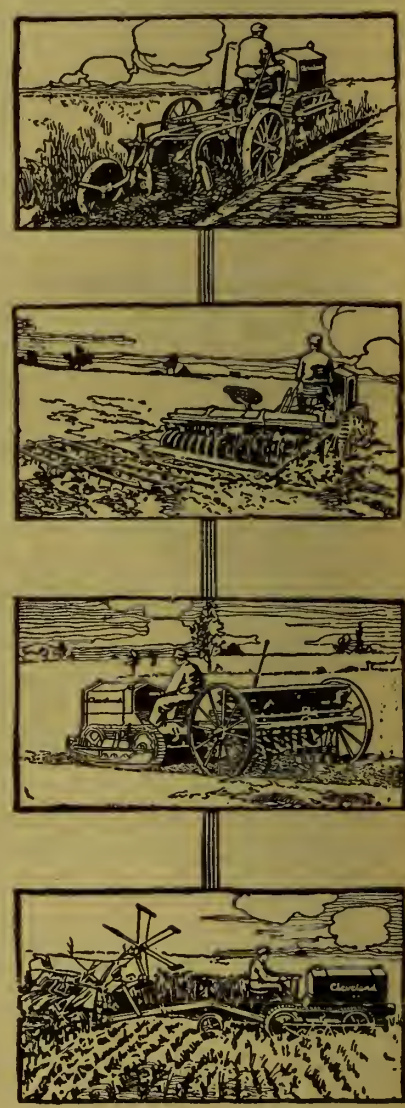
It plows, harrows, plants, reaps, cuts ensilage, runs saws and pumps, drags logs, pulls road machinery, hauls manure spreaders and does practically all the work formerly done with horses or stationary engines.

The Cleveland Tractor produces food but consumes none of it. It conserves man power, horse power, time, energy, and effort—and produces greater returns.

The Cleveland Tractor was designed by Rollin H. White, the well-known engineer. It is manufactured under his supervision. Gears and tracks are protected from dust and dirt. Materials throughout are of the best. The whole machine weighs only about 3200 pounds. It can be housed in less space than is needed for a horse.

Take advantage of present produce prices. Raise *more* food *now.* Help the nation and incidentally make more money yourself by using one or more Cleveland Tractors.

Write for complete information and the name of the nearest Cleveland dealer.



The Cleveland Tractor Co.

The largest producer of Crawler-type Tractors in the World

19073 Euclid Avenue **Cleveland, Ohio, U. S. A.**

Cleveland Tractor

STOP Being Robbed Of Your Cream Profits!

INVESTIGATIONS covering six counties of a good dairy state prove that nearly 9 out of 10 dairy farmers are actually **throwing away $20.00 per cow each year!** They are letting out-of-date and inefficient cream separation methods actually steal away that amount of earned butter-fat profits per cow.

That's **one** of the reasons why some farmers are not getting rich!

This cream waste is something that Swedish dairy farmers would not permit. Their farming conditions have compelled them to cut out **all** cream waste. Their demand for **perfect** cream separation has produced the most efficient cream separator in the world— the ***Viking.***

Get All the Cream, Get More Profits By Using A

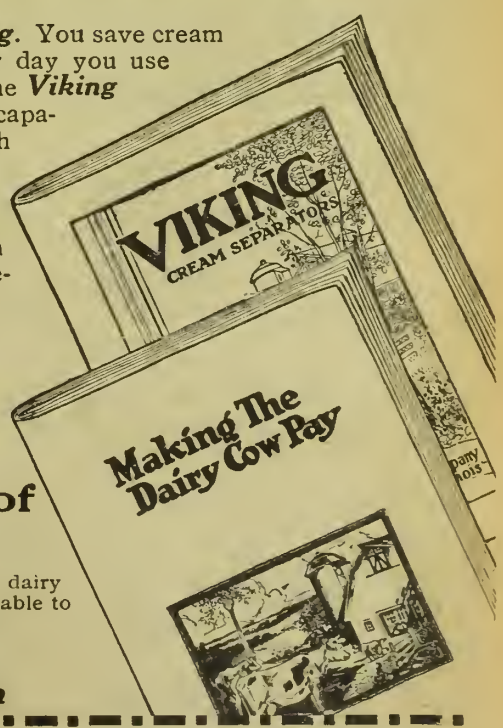
Over ONE MILLION In Use

VIKING CREAM SEPARATOR

Guaranteed For A Lifetime

LOWER IN PRICE—GREATER IN CAPACITY

You save money when you buy a ***Viking.*** You save cream and add to your butter-fat profits every day you use a ***Viking.*** Experts' tests prove that the ***Viking*** actually has 100 pounds of milk greater capacity **per hour** than many separators which cost much more than the ***Viking.*** Furthermore, the ***Viking*** is the closest skimming machine in existence. It is guaranteed to skim down to three one-hundredths of one per cent. In actual work it has often skimmed down to one one-hundredth of one per cent.



Made in the World's Largest Separator Factory

orld-wide demand for ***Vikings*** has built up the largest parator factory in existence. 180,000 ***Vikings*** are sold ery year. Each one is made of the finest quality edish iron and tool steel. Simplest separator made today. Easiest running: operation starts the minute you begin to move the handle. Whole bowl can be thoroughly cleansed in less than 3 minutes. See it at your local dealer's store.

hese Two Free Books Will Open Your Eyes to Scores of Ways to Increase Your Dairy Profits

ese two books are ***Free.*** We want you to have ***both*** of them. Read them. They show how the most successful dairy mers are netting fat profits. Every page is packed with plans and methods and systems that have **proven** profitable to odreds of American dairy herd owners. Just fill out the coupon—clip it off—and mail it to us tonight.

SWEDISH SEPARATOR COMPANY, Dept. BX , 507 So. Wells St., Chicago, Illinois

et Both of these Books FREE—Mail us your Name and Address on the Coupon

VEDISH SEPARATOR COMPANY, Dept. BX , 507 South Wells Street, Chicago, Illinois

Send me your 2 FREE books at once

me_____ R. R. No._____

t Office_____ State_____ Name of my Dealer is_____

$100 to $300 a Month

Can easily be earned by mechanically trained men. We teach you how to get and hold the better positions, such as foremen, superintendents, managers, etc., or to start an Auto, Tractor and Truck Agency and Repair Shop for yourself.

BE A MOTOR MECHANIC

We teach you in eight weeks how to operate and repair any Automobile, Tractor, Truck or Gas Engine, and to be an Expert Welder. If you go into the Army, we fit you to hold mechanical positions paying up to $145 a month.

Write for free Book, stating whether you wish to be a Tractor Salesman, Tractor Operator, Garage Manager, Chauffeur, Expert Welder, Army Mechanic or to go into business for yourself.

LINCOLN AUTO & TRACTOR SCHOOL
"The School That Teaches You to BOSS the Job"
2423 O Street, Lincoln, Nebraska
(5)

DON'T CUT OUT A Shoe Boil, Capped Hock or Bursitis
FOR
ABSORBINE
TRADE MARK REG. U.S. PAT. OFF.

will reduce them and leave no blemishes. Stops lameness promptly. Does not blister or remove the hair, and horse can be worked. $2.50 a bottle delivered. Book 6 R free.

ABSORBINE, JR., for mankind, the antiseptic liniment for Boils, Bruises, Sores, Swellings, Varicose Veins. Allays Pain and Inflammation. Price $1.25 a bottle at druggists or delivered. Will tell you more if you write.

W. F. YOUNG, P. D. F., 155 Temple St., Springfield, Mass.

Big Money in Running Water

Let us start you in business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an

Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

There is a big demand for wells to water stock and for irrigation.

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co.
Box 943 Clarinda, Iowa

IRRIGATE Your Field and Garden

Get larger yields and profits. Provide fire protection for your buildings, and water for your stock by installing an

"AMERICAN" Centrifugal PUMP

Absolutely guaranteed. Write for new catalog.

THE AMERICAN WELL WORKS
General Office & Works: Dept. 27, Aurora, Ill.
Chicago Office: First National Bank Building.

THE SELF-OILING WINDMILL

has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load.

We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.

Write AERMOTOR CO., 2500 Twelfth St., Chicago

Hand Pull Lateral Gates

These gates prevent cutting the ditch banks in order to divert the water and put the water under complete control of the irrigator. They are durable, low initial cost, preserve ditches. May be attached to "Armco" iron pipe outlet conduit any desired length. No cement work required.

Write for our free 125 page catalog, which illustrates and prices these gates, as well as more than 65 other articles for the irrigator including the "Armco" flumes, ditch lining, pipes, culverts, tanks, troughs and grain bins.

THE R. HARDESTY MFG. CO.
1837 Market Street DENVER, COLO.

$22.00 Sweep Feed Grinder | $28.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
610 E. Seventh Street, Topeka, Kansas.

The Livestock Situation

E. M. AMMONS

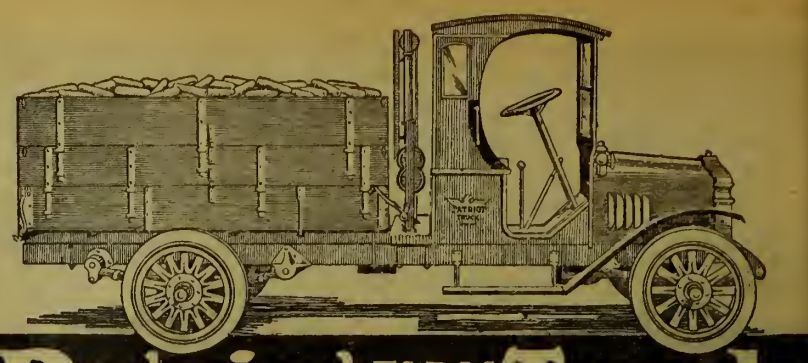
The livestock situation, especially so far as cattle and sheep are concerned, is very different from that of a year ago. In 1917, young cows and heifers were at a premium, sometimes as much as $1.50 per hundred. This year she stuff is a like amount lower than steers. It is not difficult to find the reason. As in other lines of business, the major portion of the cattle industry is carried on credit and most loans are for a period not exceeding six months. This not only furnishes discouragement to the careful grower in entering business on a basis of high values, where profits cannot be reached for two or three years, but the banks themselves are loath to make loans, especially on full values where profits can be realized only after two or three renewals of the paper. Under war conditions, with no certainty of how long the conflict may continue, many holders do not like to speculate far into the future. Cattle prices are high, and those furnishing money for the business prefer to make only short-time loans on stuff that will soon be ready for market. The natural result is encouragement only for heavy cattle that may soon be ready for market. It is true that this situation furnishes a favorable opportunity for those with money of their own to enter the business, because the prospect for profits on young and light stuff seems to be as bright as for more mature heavy cattle; comparatively few, however, will be able to take advantage of this situation, and many dealers with great experience expect present condition of light prices for young cattle to continue for some time to come. A year ago, practically all the lambs were contracted much earlier in the season than at the present time. This year very few contracts have been made, with a consequent dragging tone to the market. Growers of both classes of animals, however, should not be discouraged. There seems to be little likelihood that for years to come there can be any material decrease in the prices of beef, or mutton, or wool. The difficulty at the present time is not a new one. The variations in the market is due to a situation that has existed for years. Money that is loaned for this business, like that furnished for many others, is not really a surplus, but is, in fact, placed temporarily and must be returned for other purposes within a few months time. One thing most necessary to insure increased production, to stop the indiscriminate sale and slaughter of cows for beef, to increase the supply of meats to the consumer and insure more steady markets for the grower, would be a sufficient supply of money for long time loans to farmers and ranchmen who wish to go into the business of livestock production.

Use of the Corn Binder

The work-or-fight policy should be applied to farm machinery as well as to men, the United States Department of Agriculture suggests. Tho machines cannot fight they can be put to work on many occasions instead of standing idle in the barn lot. Most farm machines and implements are capable of doing much more work than they usually do, and the more they are used the less man-labor will be required on the farm. Three men with a corn binder, one operating the machine and two gathering and shocking the bundles, will cut from 7 to 10 acres a day, while 4 or 5 acres would be a fair day's work for the same 3 men cutting corn by hand.

The average corn binder lasts about 11 years, but during that time does only about 40 days' actual work, the department specialists point out. There is no doubt that it could render several times this much service before wearing out if there were more work to do. These points are brought out in a bulletin soon to be published by the U. S. Department of Agriculture on the use of machinery in cutting corn. There seems to be very little relation, the bulletin says, between the amount of work done annually by a corn binder and the years of service.

The only tear we can shed with a smile is the profiteer.



Patriot FARM Truck

Built for Country Roads
Built for Country Loads

The Patriot is the first Motor Truck built especially for farm work. *It is equipped with a practical farm body,* similar to what you have always used on your farm wagon.

It saves horses and high-priced feed. *It brings better markets nearer,* for with a Patriot you can readily drive loads to a market 100 miles distant.

It lays down 15,000 to 20,000 pounds at market in practically the same time that a team will deliver 5,000 pounds, literally bringing the farm to about one-fourth its actual distance from market.

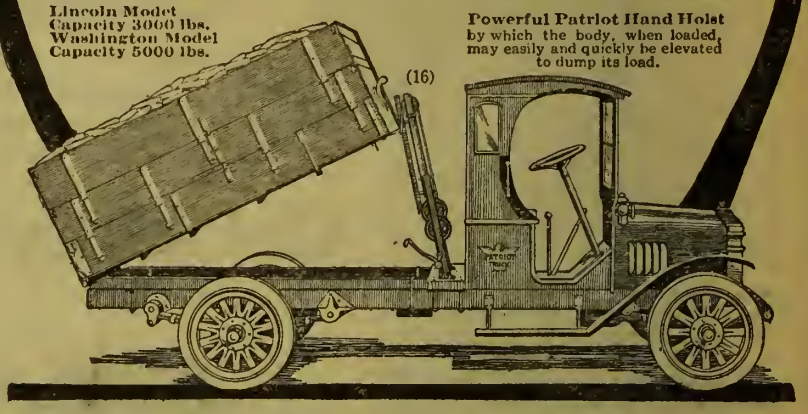
Business farmers can easily see how such perfect transportation greatly increases the value of their farms, to say nothing of the convenience in being master of roads and weather. Every farmer with 160 acres or more should find out what a Patriot Farm Truck will save. Write for information.

HEBB MOTORS COMPANY
Manufacturers of Patriot Farm Trucks
1381 P Street Lincoln, Nebraska

Lincoln Model Capacity 3000 lbs. Washington Model Capacity 5000 lbs.

Powerful Patriot Hand Hoist by which the body, when loaded, may easily and quickly be elevated to dump its load.

(16)



Carrying on—over there—and over here

The American farm tractor is fighting for victory here just as much as the artillery tractor "over there." Effective lubrication helps them to bear the wear and tear.

STANOLIND
Gas Engine Tractor Oil

is especially recommended by kerosene burning tractor manufacturers. It has the correct body and lubricating qualities, minimizes carbon trouble in valves and cylinders, keeps compression tight; assures long and satisfactory tractor service.

Fill your oil tank with Stanolind Gas Engine Tractor Oil and it will "carry on."

Buy from your dealer or direct from the producer.

THE CONTINENTAL OIL COMPANY
(A Colorado Corporation)
Denver Pueblo Butte Boise
Albuquerque Salt Lake City Cheyenne

Published Semi-Monthly by The Farm Life Publishing Co., Denver, Colo. 14th and Arapahoe Sts.

Entered at the Denver Postoffice as Second Class Matter

WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

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Colorado Ranks High In Progressive Legislation

FARMERS ARE URGED TO EXERCISE THEIR CIVIC RIGHTS

The author of the accompanying article is well known to our subscribers, acting as legal adviser to those who take advantage of our Free Service Bureau, in matters relating to farm law. Since the nation entered the war there has been much misguided and sometimes vicious agitation, inspired by enemies of the government, in regard to our form of democracy, and to the rights of our citizens, especially the civic rights of the farmers, who are the mainstay of the nation. While there is justice in some of the demands made by reformers and political agitators, a careful reading of the accompanying article will convince any fair-minded citizen that the question of better government is not one of revolutionizing our present form, but one of better men and more regard by all citizens, and farmers in particular, of the rights and privileges guaranteed them by existing laws. Colorado, taken as an example of western progressive states, ranks with the most advanced commonwealths in its legislative machinery, open to the people for exercise and control. These matters are of vital importance in war times and in view of approaching elections, when there is need for clear thinking and intelligent action by all classes of citizens.—Editor.

HAMLET J. BARRY

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COLORADO can be ranked justifiably with the first few states of the Union in its advanced or progressive legislation. In its laws can be found legislation as far advanced as in any state or government. True, some of the advanced legislation has not been appealed to, and it lies dormant, awaiting the action of the sovereign people to give it form and substance. That situation is not the fault of the laws, for they are here ready to spring into action when called. Some states, having had advanced legislation longer, have exceeded Colorado in its administration, because of a large body of men trained in the administration of such laws. It does remain true that Colorado has the machinery at hand that must satisfy the most exacting in the matter of answering in government the social needs of its people.

The foundation of legislation and the limitation upon state officials, as well as the people themselves, is the constitution. That constitution, republican in form, as demanded by the constitution of the central government, provides for the three great branches of government, the executive, the legislative, and the judicial. All of the power not surrendered to the government of the United States is in the people. The three branches are separate, distinct and supreme, each within its sphere. Chief Justice Marshall said that a court might declare a law passed by the national legislature unconstitutional, and the courts of Colorado have accepted that doctrine as law. So within the state of Colorado the supreme court may declare a law passed by the legislature not in conformity with the constitution, and therefore not a law. That right has never been authoritatively questioned in Colorado.

There does remain the principle that the people are supreme when acting within the limitations they themselves have placed upon themselves in their organic act, namely the constitution.

That advanced legislation, touching on the fundamental and constitutional questions, should not be jeopardized by interpretation by the courts has been taken care of by amending the constitution itself where necessary to make way for the advanced program. So the initiative and referendum, the recall, recall of judicial decisions, and that provision prohibiting all courts except the supreme court from declaring an act of the legislature unconstitutional, are all constitutional provisions. The people make the constitution, the organic act, the supreme law. Questions of constitutionality of such provisions cannot properly be raised, for they are a part of the constitution itself; leaving the only question to be raised whether the constitution conforms to the constitution of the United States.

The way is shown here for enacting into the constitution such further advances as seekers for social betterment thru government shall deem advisable. A danger is suggested by conservatives in this form of attaining results, that the constitution is put on the same plane, so far as amendability is concerned, with an ordinary legislative act. This argument is met by the thot that the constitution of the United States is for practical purposes unamendable, tho it has been amended several times, and there must be a bending somewhere, and the states of the Union have left the way open by having comparatively flexible constitutions.

A brief survey of the advanced measures should justify the conclusion that Colorado voters have at hand all the machinery necessary to carry into effect whatever worthy ideas they have for society's betterment.

The initiative (Colorado Constitution, Art. V, par. 1) in the constitution is reserved to the people, giving the people the right by petition to propose any laws they wish enacted. The way is open, therefore, to old-age pensions, municipal and state control and ownership of utilities, regulatory and remedial measures of every kind and degree. This provision has been in the constitution since 1910, and if all the advanced ideas that can be gathered together are not upon the statutes of the state, it is not the fault of the law, for the machinery is there. The fault, if it is a fault, is with the electorate. The supreme court of the United States has in effect held that such a constitutional provision as this is proper; that is the court held that the question was a political one, which the supreme court of the United States has no authority to pass upon.

The referendum (Colorado Constitution, Art. V, par. 1) part of the same provision declares the power of the people to pass upon practically any law passed by the legislature and to say whether the act of the legislature shall or shall not be adopted. If there have been bad acts enacted into law since 1910, the blame for the bad laws is not upon the officials of the government nor upon the legislature, but upon the people.

Should an elective official get into office and thereafter prove unworthy of his trust, or should the people not wish him longer to remain in office, the recall provision provides the remedy (Colorado Constitution, Art. XXI, Sec. 1). This law has been in effect since 1913. No reason need be advanced to recall an officeholder from an office; all that need be done is call an election under the provisions of the constitution. If, therefore, there have been bad men, or incompetent men, or merely stupid men, in office since 1913 in Colorado, whom the people do not wish in office, it is a fair deduction to record that such men have remained in office because the people wished bad, incompetent or stupid men in office.

The judiciary has been mentioned as one of the co-ordinate branches of government. The constitution now limits the judiciary in the interpretation of the law and says that only the supreme court may declare an act unconstitutional (Colorado Constitution, Art. VI, par. 1). And further, if the decision of the supreme court on a state law is not satisfactory to the electorate, then the electorate may call for a determination of the constitutional question by the people themselves. This latter phase of the constitution has never been invoked. Either the judges have always acted wisely and in accord with the view of the majority of the people or the people have not invoked the remedy, merely because they are indifferent or for some other reason that they have not declared. It is possible that the people might decide a question of law under this provision differently at different times, so there might be some question as to just what the law is at a given time. In answer to that it may be said that this is no worse than courts have done. In all events, the means to overrule courts are in the hands of the people by specific constitutional provision.

It has been said that the political party convention system has given birth to boss rule. The primary election law (Mills Ann. St. 1912, Chapter 48) has as one of its aims the defeat of boss rule. If the primary election machinery does not meet society's needs, then the electorate has the right and the power to devise new laws that shall be wholly within its control; that is, if such a thing is possible or desirable in a republican form of government. The evil of the primary election law, if it is an evil, may be remedied. The primary election law, tho, is classed as advanced legislation and Colorado has it.

So much for the ways and means of bringing into Colorado statutes all that the most progressive and most thotful may desire.

What other laws has Colorado that show, from whatever source derived, that Colorado is advanced in its social and reformatory legislation?

A few may be mentioned. The public utilities law brings public utilities under reasonable regulation, and seeks to bring about understanding between the investor and the public. So with the tax commission, which has for its object equality, uniformity and justness in taxation. Then there is the inheritance tax, a tax upon the estates of decedents, or more accurately a tax upon the succession, a tax on money and property not earned by the beneficiary. Colorado does not have a state income tax, but there is the federal income tax which supplies the deficiency. And so thru the list. There is a host of laws in Colorado having for their object the achieving of the ends of the most advanced social thinkers and workers.

Generally in the field of administrative law Colorado has as many commissions and functionaries to carry out the state's laws as has any other state. If it be said that these laws are badly administered, the remedy is still in the hands of the people, who may recall from office those responsible for the appointment of the various commissioners. And finally, if the whole scheme of administrative law is bad, the people may substitute for it one that meets their approval which, ideally at least, may be the acme of perfection.

Suffrage in Colorado is universal for adults (Colorado Constitution, Art. VII, par. 1). Colorado was among the first of the states to admit women to suffrage. Within the state, therefore, men and women both have within their grasp the complete power to solve all the difficulties of government.

Torrens Title Registration

An example of a meritorious law that has been a dead letter is the Torrens system of registration of land titles (Mills Ann. St. 1912, Secs. 856 et seq.). The act aims at doing away with expensive title examinations, insuring the title in the holder, and has many excellent reasons for its existence. The law has been on the statutes for many years, and there are

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A Wyoming Woman Sheep Rancher

SHE RUNS 4,000 SHEEP AND 500 HEAD OF CATTLE

By WHITE EAGLE

Mrs. Edith Paisley, Wyoming Woman Rancher

White Eagle, the writer of the accompanying article, is a gifted member of a vanishing race, a full blood Indian. He knows the life about which he writes so interestingly and we hope to be favored by other contributions from his pen from time to time. His home is at Gillette, Wyo., and he formerly drove the mail stage from that town to Wright and has known the woman rancher whose story he is telling, for a long time.—Editor.

FIFTY miles south of Gillette, on Porcupine creek, Campbell county, Wyoming, is the Paisley ranch of 1,160 acres of good grazing lands. The ranch has been cut one-half in acreage from what it was in former years by the coming of the homesteaders. The outbuildings, sheds, etc., and the fine, large ranch house, painted white, with young cottonwoods growing in front, throw a feeling of home comforts into the breast of one who has ridden the distance from town, seeing nothing save the small shacks of the homesteaders, or lonesome looking wagons of the sheepherders.

At the present writing there are some 4,000 sheep on the ranch, 500 head of cattle and 50 head of horses.

As all western people know, the most strenuous time on a sheep ranch is at lambing, in the spring, and then at shearing, the one following right upon the other.

Mrs. Edith Paisley (nee Reno) went thru several years of this and has had under her employ at the different seasons four to ten men. That she made a success of the business is evident from the fact that she sold one season's wool clip and lamb crop for $32,200. But she had her losses as well, notably the winter of 1909-10, when her losses were 45 per cent. She can discuss sheep and their care with the best of the sheepmen and informs us that during her eleven years' experience in the business no other breed of sheep has been found so adapted to northern Wyoming as the mixed breed of Cotswold and Rambouillet. Having grown up in Colorado and Wyoming, she is naturally fond of a famous product of these two states—horses. And has been a rider of more or less daring all her life.

Before the Ford car made its appearance upon the remote cattle and sheep ranches, the fifty-mile trip was made into Gillette by horseback or with team, and frequently in the teeth of a blizzard for which northern Wyoming is famous. But the Ford has come to stay and the fifty-mile trip is now made in two hours.

We give here part of her record as a horsewoman:

Won second prize at Douglas State Fair, Douglas, Wyo., 1909.

First prize for horsemanship at the Weston County Fair, Newcastle, Wyo., 1910, riding in the relay and ladies' novelty races.

In 1911 she beat her former records by taking first prize and the world's championship at the State Fair, Douglas, Wyo. It requires nerve, coolness, quickness, and real riding ability to stay in a relay race where western horses are used, but in spite of her lifetime experience in the saddle and the many contests in which she has engaged, she has never had an accident or suffered an injury.

During the trying times of lambing when everyone on a sheep ranch, except the cook, has to be out more or less in some of the most disagreeable weather that a human being can be called upon to endure, this strenuous woman, dressed in heavy clothing, a "slicker," rubbers, heavy mitts, and a fur cap, has bolstered up the flagging courage of men as she patiently helped move a bunch of slow going ewes and their slower, silly, new born lambs to some sheltering hillside while the driven snow, cold rain and sleet beat into her face until the care free smile, so often playing over her face, was absent because the muscles were numb and stiff with cold.

She is a robust built woman as one would imagine, by her life in the open; her face round and pleasant, with sun tanned cheeks, fair hair, brown eyes, and a set of perfect white, even teeth.

Some readers may possibly imagine that sheep ranching is all a picnic because one of the accredited weaker sex has thus suceeded at it. I will here relate two instances which will show the risks one takes in the business here in northern Wyoming.

On the ranch of her big brother Bert, adjoining her own, a herder was lost, with his band of sheep, twenty-four hours in a blinding snow storm. When he was finally found his cap had frozen to his head and his shoes had to be cut from his feet. He was taken to Gillette with all possible haste and everything done that could be done to save his feet, but they were so badly frozen that part of one foot and most of the other one had to be amputated. The young man recovered, and now has a band of sheep of his own out near the neighborhood where he was once so near death.

And the same winter, if my memory serves me right, for during each of these two episodes I was mail carrier from Gillette to Wright postoffice where ranchers, including Mrs. Paisley, got their mail, so what we have here is written from first hand. On the Paisley ranch a herder was lost for several days in a very bad blizzard. When a party was able to get out, they found him with his back against a rock, seated in the snow, frozen stiff. His dog had stayed by him all that time, without food or drink or shelter and was so weak that when the searchers arrived it could scarcely stand. No animal in the sheep country is more indispensable or worthy of our regard than the sheep dogs. Who can sum up the world of devotion in the breast of that poor beast, as thru the long, cold nights, and bleak, windy days, without food or drink, it kept watch, perhaps hoping for a sign from the hands of the one time master, now so still, or a word from the lips so dumb!

Altho recently married to John Paisley, himself a stockman, the subject of this sketch still takes active part in managing the ranch, she and her husband working together in perfect harmony on the many tasks she once conducted so well by herself.

Keeping a Small Flock of Sheep on the Farm

WHY THIS IS PROFITABLE ON OUR WESTERN IRRIGATED LANDS

CHARLES I. BRAY

THE Colorado farmer with 160 to 320 acres of land usually has the idea that it is out of the question for him to handle sheep profitably except as a feeder. He cannot think of sheep except in numbers of four figures. He is too likely to believe it necessary to have a large ranch with an allotment on the forest reserve to supply summer grazing, making sheep a main business enterprise rather than a side line. But it is of sheep as a side line that we wish to speak.

Two questions naturally arise. Why raise sheep on the farm? And, what is there in it? There is a very urgent and patriotic reason why as many sheep as possible should be raised on the farms of the United States. The country needs more wool and lots of it. The present rate of production is barely sufficient for the needs of the army alone. Woolen goods are increasing in price at a tremendous rate, and there is no means of knowing how much higher they may go. It is estimated that if the sheep in the United States could be doubled in two years we would have no more wool than we will need.

What is the answer? Why not let the range men expand their business and double their flocks? There is no question that in some ways they can handle sheep more effectively and efficiently than the small farmers. The reason this is not advisable is there is practically no more range to use. Much of the old grazing land is now in homesteads, and much more yet unfarmed has thereby been made inaccessible. The only place to put more sheep is on the small farms. It is estimated that half the farming land under fence in the United States is unimproved, and practically idle. Much of this land could be used in sheep raising.

The next thing is: Will it pay to put small flocks of sheep on the small farm? That depends on circumstances, but as a rule it will. It is not a question of whether the sheep as a main industry can be handled as economically on the farm as on the range. It is a question of whether the farmer can afford to operate without some sheep to change his waste feed into cash products. The sheep cannot compete with the dairy cow, as a producer of human food, from high priced hay and grain. What the sheep can do is to turn into marketable and much needed meat and wool a great deal of otherwise waste and unmarketable material. Weeds, waste pasture, beet tops, grass from the ditch banks, or in the orchard, waste heads of grain in the harvest fields are all the same to the sheep, and are a saving to the farm when so utilized instead of an expense.

What are the advantages of sheep raising? The old reason, that the sheep is a destroyer of weeds, may not mean quite as much now in Colorado as it will later. While we have some weeds, the weed problem has not reached the stage experienced in older settled states. There is no question about the ability of sheep to destroy weeds. I remember a certain large dairy pasture in Oklahoma a number of years ago. The first time I saw it it was being gone over with a mower to cut down the weeds. In some places these were higher than a man's head, and so stout that the mower could not cut them, and they had to be cut by hand. The next spring a hundred and fifty sheep were turned in with the cows, and there was no more trouble with weeds. I have seen the same thing happen along roadsides, fence corners and ditch banks. It is somewhat peculiar that the sheep, while very particular about eating weedy hay, will go after the weeds on pasture very often in preference to grass. The sheep masticates its food so well that practically all weed seeds are destroyed.

The wool crop is a valuable one at present, and gives the sheep a very great advantage over the beef animal. The average farm sheep should produce seven to eight pounds of wool, worth now at least from 50 to 60 cents a pound. The sheep multiplies more rapidly than the beef animal, and the lambs are marketable at an earlier age than the steer, putting on gains for less feed, and at present bringing a higher price per pound. Another item in favor of the sheep is that they afford a handy supply of meat for summer use.

The illustration shows a small flock of Southdown ewes on Montair farms, Fort Collins. Five ewes prduced last year eight lambs. Four ewe lambs were kept in the flock. One ram was sold for $25, and two wethers were killed for home use. The five ewes and the ram sheared 50 pounds of wool, which sold at 50 cents per pound. These sheep ate no grain, and got their living largely in the orchards thru the summer, and stayed fat on alfalfa hay in the winter. This shows what they can do on a small farm, but their use is not confined to farms of this size.

Purebred Southdowns in Apple Orchard on Montair Ranch, Fort Collins, Colo.

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Dry Farming Where the Summers Are Rainless

HOW THE CALIFORNIA FARMER CONSERVES MOISTURE

E. R. PARSONS

SOME raise crops on the natural precipitation, some with the help of irrigating water; but who ever heard of raising crops on dew? One of the wonders of the world is the great lima bean crop of California. It is planted after the rainy season is over and the bulk of it is raised without irrigation. The bean belt is close to the coast; nearly every night there is a fog of some kind, and in the morning the leaves are wet with dew. The temperature during the day is usually in the neighborhood of 80, but during the hot spells may run up to 110. This faculty of absorbing dew or humidity thru the leaves is a great help to the bean. but it is not by any means the whole thing.

The largest and most successful bean growers plow the ground in the fall after a good rain or two about 10 inches deep. This is worked on and off during the winter months from five to ten times about 8 inches deep, preferably with a light draft spring toothed harrow with narrow teeth. The precipitation in the bean district during the winter is from 8 to 14 inches, according to the season, which usually closes in April. The beans are planted in May, with a planter, which deposits the seed in the moist soil below the surface. After the plants come up they are cultivated between rows until the soil is worked up into a fine dust mulch. The deep plowing holds the winter moisture, the dew nearly every night refreshes the plant after the heat of the day, and the dust mulch with a fine soil texture to a depth of 8 inches prevents absolutely any loss of the conserved moisture.

The California bean crop of 1917 was 270,000 tons, or nearly 11,000,000 bushels. The unirrigated land on which these beans were raised is valued at from $200 to $400 an acre. The grain crop of California is also raised by dry farming methods, much of the irrigating water being reserved for fruit and trucking. Altho some barley and wheat may be found in the coast regions, the main crop of cereals is raised in the interior valleys, which were originally desert, and in early days sold for $2 an acre. Altho much drier than any of the coast valleys, the San Joaquin produces most of the grain in California. The standard method which brings these results is the summer fallow, and it is followed consistently by practically all the grain raisers.

Land Plowed in Winter

The land is plowed in the winter which is the rainy season, and absorbs all the rain that falls. When the wet season is over in April or May, the top soil is well worked as deeply as possible until the plowed ground is all as fine as a good mulch. By this means the whole winter's moisture is carried over to the next season, thru a hot dry summer of six or seven months' duration, with the loss of probably not more than 10 per cent below the plowing. The precipitation in the San Joaquin valley runs from 8 to 12 inches, 14 being about the highest, and very little can be raised without depending either on the fallow or irrigation. The evaporation is high, and in summer the thermometer often registers 100, yet this valley is credited with about $5,000,000 of barley and wheat annually, and the land is worth $400 an acre. Last year's average on the best land which had been fallowed was about 20 sacks, or 40 bushels per acre.

In consequence of cropping continually to wheat without rotation the soil is becoming less fertile, and barley is now the standard crop. The same thing has happened more or less all over the state. In the Santa Clara valley much of the land has been cropped until it will no longer raise grain, but the situation has been saved by planting fruit trees. It is a new idea to many that after a soil has been grained to death, it can be planted to fruit trees, but such is the case, and the prune crop of the state, most of which is raised in the Santa Clara valley, is estimated at $7,000,000, about one-third of which is raised without irrigation.

The valley soils are made up of different layers of wash and sediment from the hills and mountains, all of which are fairly rich in mineral elements and even contain some humus, and altho the top has been used up by the early grain raisers, there is plenty of substance in the lower level which the roots of a fruit tree can easily reach. The whole valley is now one vast orchard, and owing to the yearly fall of the leaves, humus is again beginning to appear in the top soil, and many think that fifty or a hundred years of fruit raising will so restore the upper layer that if the orchards should use up the fertility of the subsoil and prove unprofitable, grain could again be successfully produced. Dry farm prune orchards with bearing trees from 15 to 20 or 30 years old bring about six or seven hundred dollars an acre and will yield from one to two tons of dried prunes per acre.

During the winter months the weeds are allowed to grow in the orchards until early spring, when they are all plowed under for fertilizer; then as soon as the rains cease, cultivation commences, which is deep and thoro and leaves a six-inch mulch to conserve the moisture. The trees have to be heavily pruned, and thoroly sprayed, and there is considerable work in picking, dipping, and drying. The prune, which is an oval blue plum, is allowed to become dead ripe and drop off the tree. It is then dipped in boiling lye water, which clears the pores of the skin, allowing it to dry more quickly. They are then spread out on trays in the sun until cured, and the sugar they contain preserves them indefinitely. A prune can be made out of any plum in which the sugar content is high enough to preserve it after drying. A large proportion of the apricots and peaches in California are raised without irrigation, and dried after being cut in half and the pit removed. After drying they are sulphured to pasteurize them and make them keep.

Grapes are one of the greatest drouth-resistant crops, and, like beans, are noted for their faculty of absorbing atmospheric humidity thru their leaves. There are thousands of acres of them since they are used both for wine and raisins, and will grow on rough land where nothing else will produce. With the exception of a few acres of table grapes, they are raised entirely without irrigation.

There is another crop which is becoming more and more popular since the establishment of better canning facilities, and that is tomatoes. The tomato is raised sometimes entirely without watering, and in some cases with one or two irrigations. It is wonderfully drouth-resistant, and on a well worked fall plowed seed bed can be raised to perfection in almost any of the dry farming states when the climate is right. They are planted about six feet apart. In the way of nuts California's chief crop is the English (Spanish) walnut. There are many in the southern part of the state which are never irrigated; but since these have long tap roots, and flourish best on bottom land, there is always a suspicion that they exploit the subsoil moisture which rises by capillarity from a water table.

The Sorghums Do Well

Among the small grains we find that besides barley and wheat, oats, and corn are also raised above the ditch, and it is found possible in some localities to raise more than one crop of Sudan grass or other sorghums on conserved moisture after the rainy season is over. It is considered no trick at all to raise small grain or any other hardy crop which will grow during the California winter, for the weather is cool and a precipitation of 12 inches or so provides plenty of moisture during the rainy months; but to raise late crops on conserved moisture with no chance of a rain during the growing season is the highest type of dry farming, and re-

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Select Seed Corn Now for Next Year's Planting

POINTS TO BE OBSERVED IN PICKING GOOD SEED EARS

The only proper way to select seed corn is from the standing stalks as soon as the corn matures and before the first hard freeze. Select plenty of seed—enough for your own needs, for replanting if necessary and to supply your less thrifty neighbors who may wait until spring to take their chances of getting good seed from the crib. Well-chosen, home-grown seed of varieties of proven worth in the community, properly dried immediately after it has been gathered and carefully preserved until planting time, produces the best yields.

As soon as the crop ripens, go thru the field with seed-picking bags, and husk the ears from the stalks that have produced the best corn without having had special advantages such as space, moisture, or fertility. Preference should be given the plants that have produced most heavily in competition with a full stand of less productive plants. Late-maturing plants with ears which are heavy because of an excessive amount of sap should be ignored. Sappiness greatly increases the weight and is likely to destroy the quality.

All other things being equal, short, thick stalks are preferable. Thick stalks are not so easily broken down, and in general are more productive than slender ones. The tendency for corn to produce suckers is hereditary. Other things being equal, seed should be taken from stalks that have no suckers.

Immediately after the seed corn is gathered the husked ears should be put in a dry place where there is free circulation of air and placed in such a manner that the ears do not touch each other. This is the only safe procedure. Good seed is repeatedly ruined, because it is thought to be already dry enough when gathered. Many farmers believe that their autumns are so dry that such care is unnecessary. Seed corn in every locality gathered at ripening time will be benefited by drying as suggested. If left in the husk long after ripening it may sprout or mildew during warm, wet weather, or become infested with weevils. The vitality of seed is often reduced by leaving it in a sack or in a pile for even a day after gathering. During warm weather, with some moisture in the cobs and kernels, the ears heat or mildew in a remarkably short time.

The best possible treatment immediately after gathering is to string the ears. Ordinarily the best place to hang strings of ears is in an open shed or loft. Wire racks are more convenient and in the end cheaper than binder twine. Such racks may be made from electrically welded lawn fencing. The cutting of the fencing into seed-corn racks is done without any waste.

Selecting Seed Corn on the M. N. Baker Farm, Roy, N. M., Altitude 6,000 Feet. Showing Short Stalk Corn of Quick Maturing Variety

After hanging in the shed or lying on the racks for two months the seed ears should be as dry as a bone and contain less than 10 per cent of moisture. They can remain where they dried or be stored in mouse-proof barrels, boxes, or crates during the winter, but in either case they must not be exposed to a damp atmosphere, for they will absorb moisture and be injured.

The following points to be observed in selecting seed corn in the field are given in an Illinois bulletin:

1. Ears of medium size only should be chosen.
2. The grains should be well dented (corn will make satisfactory seed as soon as the grains are well dented).
3. The ears should be of good shape, but early maturity must not be sacrificed for fancy points.
4. Ears should be chosen which hang down, because they shed water.
5. The shank should be of medium length and diameter.
6. There should be two good stalks in the hill from which a seed ear is taken.

Whorled Milkweed Kills Sheep

COLLEGE EXPERTS DISCOVER CAUSE OF LOSSES

Deaths of sheep running into the hundreds have occurred on the range in Western Colorado in the last few years from some cause which until recently remained a mystery. Investigation by the Veterinary Department of Colorado Agricultural college has definitely established that these losses have been due to whorled milkweed. A preliminary bulletin has just been issued by the Colorado State Experiment station, summing up the knowledge gained from this investigation, participated in by Drs. George H. Glover, I. E. Newsom and W. W. Robbins. Every sheep-owner, whether range man or farm sheep raiser, should inform himself fully in regard to this menace. Write to the Agricultural College at Fort Collins for Bulletin 246, "A New Poisonous Plant." Following are some extracts from this bulletin, showing the heavy losses that have occurred and also giving some information about the appearance and habits of the deadly plant:

As early as December of 1909 the whorled milkweed was suspected of being poisonous. A sheepman near Colona, Colorado, lost 85 head of lambs which he had turned into his orchard after they were brought down from the ranges. The only weed growing in the orchard which was at all suspicious was the whorled milkweed.

In Colorado the attention of the Experiment Station was first called to this plant in 1915, when specimens were sent from Grand Junction by Dr. A. P. Drew, with the assurance that cattle had been poisoned by eating it in hay, and further, that there was much evidence to support his contention that the plant was causing much loss in livestock.

In the fall of 1916 a loss of 750 sheep out of a band of 1,400 was reported from Cortez. Stomach contents were sent to the Experiment Station and the seeds and stems of the whorled milkweed were found in large quantities. The place where these sheep were poisoned (a half mile east of Cortez) was looked upon with suspicion since it was rumored that other losses had occurred in the same locality. In the fall of 1917 a visit to this locality revealed a very dense growth of milkweed on a tract of ground that had been broken previously but not cultivated for at least two years. A little later in the season a band of sheep was held over night adjacent to this milkweed patch, and the following day nearly half of them died. The stomach contents showed that they had eaten practically nothing but milkweed.

The following case of poisoning was brot to our attention on June 2, 1918. This case was between Hotchkiss and Paonia, Colorado. A herd of 1,700 sheep had been ranged in the cedars and sagebrush. On June 2 these were turned into an old abandoned 10-acre orchard for one day, for the purpose of shearing and dipping. The orchard was enclosed. They were left in the orchard about eight hours, and in the evening driven out of the orchard to their bedding grounds in the cedars about 100 yards away. Between that evening and the following noon 350 sheep died. Inspection of this old orchard was made on June 14. It was very thickly grown up to whorled milkweed, in fact, there was very little succulent vegetation of any kind in the enclosure except the milkweed. Inspection showed that practically every plant had been eaten down, and that the growth present was that made between the dates June 2 and June 14. The orchard stood in the midst of a cedar and a sagebrush growth, and examination showed no milkweed in this native association. It is clear in this instance that the sheep were forced to eat milkweed, and they came there from their range hungry.

On June 8, 1918, five miles north of Cortez, Colorado, the following case came under our observation: Sheep had been kept in a dry pen for two weeks with nothing to eat but green, bright alfalfa hay. On June 8 at 9 o'clock in the morning 26 of these sheep were taken from the dry pen and driven about 75 yards over a dry road to a corral of about two acres in extent. The sheep were not fed that day and in the evening fifteen were down and thirteen had died up to 4 o'clock June 9. Two sheep recovered. All that could be found in this corral were a few scattering cedars, sagebrush and, in one corner of the corral a patch of whorled milkweed, the only green thing in the enclosure. The milkweed patch had been about half eaten off. The characteristic symptoms were observed.

The whorled milkweed is a perennial plant from a rootstock. This rootstock creeps horizontally underground, and also extends to considerable depths in the soil. Its perennial habit, its ability to live from year to year by means of parts underground, makes it a pernicious weed and one difficult to eradicate. Experiments are now in progress, however, which have for their object the finding of practicable methods of eradication. Needless to say, a plant which is the cause of such great loss of livestock should be promptly exterminated, if extermination is at all possible.

In addition to its spread by means of underground stems, the whorled milkweed produces numerous seeds, each of which is provided with a tuft of silk hairs which aid its distribution by wind.

The plant grows to a height of 1 to 3 feet. The stems are slender and smooth. At each joint of the stem there are from two to six narrow leaves with margins that roll. The occurrence of several leaves at a joint to form a whorl of leaves is so characteristic of this plant as to suggest the common name, "whorled milkweed." The flowers occur in small groups, and the grouping resembles that of onion flowers; they are greenish white in color and peculiar in their form. The pod is of the milkweed type—dry when ripe, splitting open along one side and allowing the numerous flattened, reddish-brown seeds to fly out. The seed is aided in its distribution by the bunch of hairs which is attached to its smaller end. The pods are 2½ to 3 inches long. The plant has a white, milky juice which exudes freely when the plant is injured.

How to Shock Corn

As a nation we waste enough corn to supply several European nations with bread. Much of this waste is due to poor shocking.

Corn is put into shocks for the purpose of protecting the stover and grain from rain and snow until it dries and can be husked and stored. By a little care in building the shocks and in tying them high near their tops, good protection is afforded both grain and stover. If the stalks of each armload do not slant in one direction only—toward the center of the shock—and if the tying is not done high up near the top, the shock is very apt to twist. Tying near the middle does not prevent twisting, tying near the top does.

Equal distribution of the arm-loads of corn around a shock is important. An equal distribution, with all the stalks slanting toward the center, forms a conical storm-proof shock, having each cornstalk acting as a brace to hold the shock erect. With more weight of corn on one side than on the opposite side, the shock is likely to lean or go down. Twisted and down shocks are difficult to handle and to husk. As such shocks do not shed water, both grain and stover often spoil.

Good shocking is such a simple matter that it reecives little attention. Experienced corn cutters usually build good shocks. It is no harder than to build poor shocks. Inexperienced help often feel disinclined to take instructions regarding such simple work, and if of uninterested, careless dispositions, an experienced person should work with them and make sure that the arm-loads are properly placed. Without such supervision inexperienced help often proves much worse than no help at all. Very poorly built shocks afford no protection, on the contrary, they hold water, prevent drying, and thereby hasten and increase the waste of food.

This fall each individual should, and each patriotic individual will, prevent waste of food. By good shocking an enormous waste can be prevented. If any corn shocks twist or go down, they should be husked and stored before the grain and stover commence to spoil.—C. P. Hartley, in charge of Corn Investigations, Bureau of Plant Industry, Department of Agriculture.

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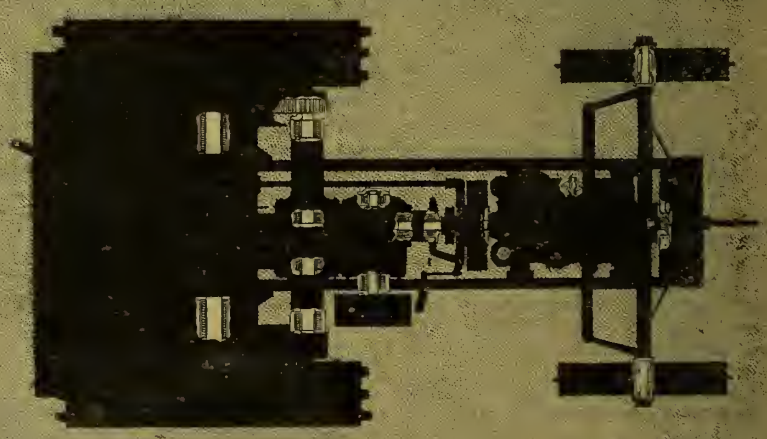

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How to Silo Beet Tops

I feel the attention of our growers should be called to some features in regard to the keeping of the beet tops, which has not been done. The beet growers have not realized what a valuable by-product they have in the beet tops and not nearly enough attention has been paid to caring for them.

Beet tops can be preserved for future use either in the form of silage or in the dry state like hay. When thoroly dry they may be stacked and protected from the wet, or they may be kept in small piles in the fields. Very little loss will occur in this manner if the winter is dry; should the weather conditions be wet the loss may be excessive. In the dry state the crowns, which are the most valuable part of the feed, become so dry that they are not readily eaten by stock. Hence, the most desirable way to keep beet tops is in the form of silage. Siloing the beet top is of more interest to those farmers keeping a limited number of stock the year round, than to the large feeders.

I wish to call attention to two ways in which the green tops may be kept for silage.

1. Dig a pit in the ground in some place where the drainage is good, from three to five feet deep and from six to ten feet wide, and of the length required to hold the crop grown. Into this pit haul the green tops, driving thru the pit and over the tops as they are put in, which will thoroly pack them. When filled, cover with a little straw and dirt to exclude air. The pit can be opened at one end, taking out the desired quantities for feed each day.

2. The green tops may be stacked in a rick on the top of the ground, preferably next to a tight fence or a wall of some kind. The rick may be of any width and length that will most conveniently handle the crop. Do not put straw or any material with the tops, as the heavy green tops by themselves will settle much better and exclude air; only a very small portion around the outside will spoil.

Mr. Chas. Wetzler of Fort Collins called my attention last spring to some silage he had kept by this method and which as late as May was in splendid condition.

The fist method is preferable, in that the green tops are handled easier by throwing downward in the pit, than if pitched on the surface, and there is some less waste by spoiling on the top and sides. The second method has advantages, in that it appeals to the man who is not expecting to remain on the farm long, and therefore wishes to incur as little expense as possible, or to one who may have rather seepy or wet conditions near where he wishes to feed.

About 35 per cent as many tons of beet top silage can be secured from a crop of beets as there are tons of beets harvested. This means that from an acre of beets nearly one-half as much silage can be produced per acre as from a crop of corn and yet have a beet crop besides. Furthermore, there is not the heavy investment required for silos and putting the crop into them, a feature which makes this silage readily available for the tenant and for the farmer who does not feel able to build silos.

Being able to have such a vast amount of splendid feed available at such a low cost is a feature of the beet business that we have been overlooking and one which, if taken advantage of, will still further add to the benefits to be derived from the successful growing of beets.

H. H. GRIFFIN,
Agricultural Supt. Great Western Sugar Co.

To Colorado Horse Breeders

Colorado, altho somewhat removed from the center of the leading draft horse sections of our country, has a particular part in horse production which she can play in this world war. It is not up to one state alone, but to every state, to make a definite step now to increase horse production. Unless we do this, our farmers are bound to fall far short of having animals to supply the army if hostilities last another forty-eight months, to say nothing of the draft horses that will be needed to recuperate European agriculture after the kaiser throws down his cards.

Right now good draft stallions can be bought east of the Mississippi river for less dollars than they have cost in a decade. Reports indicate that fewer Colorado mares are being bred this season than last. That means fewer 1919 foals and fewer mature horses ready for the market six years hence. Then will be the time, unless present conditions are mighty misleading, when big work horses will demand higher prices than have ever been seen before in this country. Colorado is not alone in respect to horse breeding conditions, for in other states there are many sections that report that not over 40 per cent of the mares available are being bred to any kind of a stallion. If any man can look ahead ten years and predict anything but a world shortage of horses, and particularly draft horses, with such conditions as we are facing now, he certainly is looking thru colored glasses. It can't be otherwise, with practically no colts being raised and with increased farm production so necessary now that the world is at war and with our Allies saying to us at every opportunity: "Send us big draft horses to work in our fields. Tell your people to keep up the production of draft horses to a maximum for we will need them by the thousands when this war is over, and we need them now but we know we can't get them for lack of boat space."—Wayne Dinsmore, Secretary Percheron Society of America.

The Fourth Liberty Loan

The campaign for the Fourth Liberty Loan will begin September 28 and close October 9. The result of the loan will be watched with keen interest in Europe, not only by our associates in the war against the Teutonic powers, but by our enemies. It will be regarded by them as a measure of the American people's support of the war.

The Germans know full well the tremendous weight and significance of popular support of the war, of the people at home backing up the Army in the field. As the loan succeeds our enemies will sorrow; as it falls short they will rejoice. Every dollar subscribed will help and encourage the American soldiers and hurt and depress the enemies of America.

The loan will be a test of the loyalty and willingness of the people of the United States to make sacrifices compared with the willingness of our soldiers to do their part. There must be and will be no failure by the people to measure up to the courage and devotion of our men in Europe. Many of them have given up their lives; shall we at home withhold our money? Shall we spare our dollars while they spare not their very lives?

Correction

In the article headed "Things That Are Vital in Seeding Fall Grains," appearing in the issue of August 15th, there was an error in advocating the use of various chemicals for the prevention of smut in grain. Formaldehyde and blue vitriol were mentioned, correctly, but the error was made in conveying the inference that blue vitriol and copperas were one and the same. The explanation in parenthesis following the words "blue vitriol" should have been (sulphate of copper) and not (copperas). Copperas is sulphate of iron, or green vitriol, and its farm use is in the destruction of weeds.

You Sit Where You Always Sat On the Seat of the Implement

YOU wouldn't think of riding on the back of one of your horses while at work in order to guide your team. If you did you would require another person to operate the implement, because implements require constant attention.

Then why attempt to operate a tractor in a manner which your experience has proven impractical? It is just as illogical to ride on a tractor in front of the implement and expect to operate the implement from that position as it is to operate the implement from the back of your horse.

Any way you look at it you are working at a disadvantage with the ordinary tractor. To do the best work two operators are required, one on the tractor and one on the implement. In these days of extreme labor shortage this is a tremendous handicap. With the operator on a tractor in front of the implement it is manifestly impossible for him to give the implement attention and make adjustments for varying field conditions without losing time.

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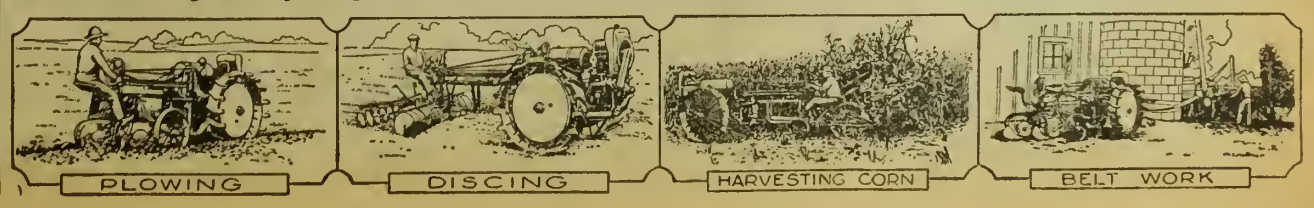

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What Dehydration Means to the Farmers

So often have we heard the saying, "Food will win the war" that it has become trite. It is true, nevertheless. Its full meaning has become clear to me as a result of an interview with Lou D. Sweet, president of the Potato Association of America, one of our foremost western farmers who, for over a year has been on the staff of Herbert C. Hoover, United States Food Administrator, at Washington. Mr. Sweet was home on furlough during the month of August. What I am setting down here is not in the way of quotation, or direct interview with him, and not in any sense an official or unofficial expression of what the Food Administration is doing, but a brief record of principles and motives underlying this great work of world rationing in the greatest crisis of the earth's history, as gathered from contact with Mr. Sweet and the glimpses that he was able to give his friends in intimate conversation.

Here is the first big fact, the bedrock of Food Administration foundation: Service to humanity! We know that in the United States the work is the outgrowth of the feeding of the starving civilian population of outraged Belgium. Death and hunger there demanded emergency treatment by an emergency man. How Mr. Hoover handled that situation—and is still handling it on top of his other duties in America—is a matter of history. Big as that job was, it was merely an incident compared to the present task of finding food for the forces that are fighting Germany. United States Food administration involves feeding the armies and civilian populations of all the nations arrayed against the Central Powers; that is, those having enough for themselves must share with the others, some of whom would today be in the hands of the enemy if it were not for help from those more fortunately situated. The co-ordination of forces in the food-producing nations for production, and the co-ordination of shipping and distribution in the nations that are almost wholly consumers, demands clear vision and forceful action on the part of the administration and whole hearted co-operation on the part of those engaged in production. To start and then more or less smoothly operate the gigantic machine that is accomplishing this is a feat in organization hitherto unrivaled in the history of mankind. In running the machine smoothness counts for less than results, and one can readily appreciate how little effect friction and unfair criticism can have on the machine, so long as the food is produced and delivered at a reasonable cost.

If the United States Food Administration had failed the war would have been lost. Manpower, military efficiency, strategy, bravery, munitions, shipping—all these without food would have been futile. Germany had the food; Germany still has food, stories of starvation and bread riots to the contrary. Food or the lack of it will not be the cause of Germany's downfall. To win we must continue to fight, and to continue fighting means to continue feeding the fighters and the long, long line of non-combatant refugees in war-devastated areas, as well as help feed those left at home in the British isles and on the soil of France.

In an organization that has such a tremendous task there must be specialists who know how to put to practical application new ways of making food go farther. Mr. Sweet has been given one of these tasks, his chief consideration during the past year having been dehydration of foods, the process of freeing vegetable foodstuffs of water. Looks like a little thing, but it is one of the biggest things that has been developed in connection with Food Administration work, not only in its effect upon immediate world needs, but in its promise of revolutionizing food preparation and conservation after the war. Every big problem in food is touched by this division; almost every problem in agriculture and many phases of food manufacture are concerned in it. Maintenance of our fighting forces; improvement in quality of food; saving of shipping space; relieving of traffic congestion on railroads; releasing of tin for munitions; saving of fuel in transportation as well as in food manufacture; saving the tremendous food waste; scientific rationing of our populations—these are some of the points of contact of dehydration with the economics of agriculture. Stop and think a moment how the development of this idea will help the farming business by simplifying distribution; how it will help by putting ALL we grow into the hands of the consumer in table shape. Dehydration not only takes the water out of the raw food, but robs the speculator and any superfluous middleman of the chance to take an extra profit from an extra handling. So far we are thinking of this process only in regard to vegetable foods—potatoes, fruits and garden truck—but it goes farther, including milk and eggs, and nobody knows just where or when it will touch meats.

All these years, when we thot we were making great strides, we have been paying freight on water and hauling water not only all over continents, but actually carrying it across the ocean in ship bottoms—and the farmer has been paying the freight at one end and the consumer throwing the water away at the other end!

Dehydration is not new, but it has taken the United States Food Administration and a world emergency to make it practical. I will not attempt here to trace its history, but a few suggestions from Mr. Sweet's fund of information on this subject will be interesting. Great Britain, during the Boer war, was forced to supply an army thousands of miles from home with food. Canada helped by shipping a soup mixture of dehydrated vegetables. One hundred pounds of this mixture provided a ration for 6,000 soldiers and four or five courses a week kept their bodies in health. The life-giving principle of food is preserved in proper dehydration which removes the water to a point where bacterial action ceases, but cellular structure remains intact, so that the re-application of water brings back the article to its original size, shape, color and flavor, comparable when cooked to fresh vegetables from the garden.

To accomplish this correctly requires a scientifically balanced process far removed from sun drying, or stove drying in the home which, while commendable and helpful in preventing waste of home-grown products, is not to be confused with dehydration developed on a commercial basis. Community driers are doing a fine work in saving food for the household in duced, but commercial dehydration is another matter of far greater importance.

It is told that the Canadian plant which turned out the soup stock for the South African forces of Great Britain closed up shop after the Boer war, for want of a market. Some of this product was preserved and at the outbreak of the world war, when the British authorities needed food, they found this in perfect condition, in spite of an interval of 20 years of storage. This was the best test of dehydration and it resulted in the revival of the industry which is now the immediate region where it is proflourishing on a war basis.

A company at Waukesha, Wis., some thirty years ago, began the dehydration of vegetable foods for the Hudson Bay Company, whose employes in Labrador were constantly in danger of scurvy from a diet of preserved meats. The gold discoveries in the Klondyke created another demand for these products when the prospectors flocked northward from "the States" in the late nineties. The Spanish-American war saw a season of demand for dehydrated foods for the use of our troops in the Philippines.

Germany had been watching these things as she has watched everything that even in the remotest way might be appropriated in preparation for the day when her military domination of the world was to become a fact. Her plans were well laid. Great Britain, her chief rival, was to be starved into submission—an easy job for the submarines because of the enormous tonnage engaged in handling the vast bulk of food products necessary to feed the manufacturing population of the islands which relied on the outside world for bread. Only a few months stands between England and bread lack in peace times, so what would it be with the German military hordes arrayed against her and a cordon of submarines around the islands to shut off her breath of life?

As for herself, Germany, wiser in her cunning way than her unthinking, peaceful neighbors, appropriated the war food ideas and rendered herself safe from starvation and released her railroads for troop movements by putting her population on a diet of dehydrated foods right from the start.

Mr. Sweet has the figures and there is no reason for withholding them now. In 1914 Germany had 461 dehydration plants in operation, reducing to its lightest bulk 800,000,000 bushels of potatoes alone. Now there are in operation 2,570 dehydration plants and in addition 5,000 breweries in the German empire have auxiliary machinery for the dehydration of food. All such products have been standardized, the standards applying not only in Germany, but also in Austria, Bulgaria and other territory under German domination. Food used by the troops of the Central empires is in the most concentrated form, saving transportation, reducing bulk and affording a scientifically correct and compact ration for the soldier.

The United States entered the war in April, 1917. The Food Administration was not officially created until about a year ago, but before it was many weeks old dehydrated products were going across the water. It will be news to our western potato growers —good news—that 11,000 tons of the 1917 crop was dehydrated and shipped to Europe for army use during the past spring. Over fifty million pounds of dehydrated food products (two-thirds soup mixture, and the balance potatoes), had gone to the British Army from Canadian plants up to November 1st, 1917.

It should mean something in the way of advantage to the potato districts of the mountain states and to the canning districts of Colorado, Utah and Idaho to have at Washington, in charge of this particular line of food conservation, a western grower who knows the quality of high altitude products, and who can inform those interested in the manufacturing end regarding the resources of our irrigated farming districts.

However, Mr. Sweet is not working for sectional or state interests, but what he has been able to accomplish specifically for western agriculture has been by reason of the merit of western products and western methods of farming. Among the big things that stand to the credit of his division of Food Administration activities, for the benefit of agriculture in the United States as a whole, nothing is of more importance than the accomplishment of giving dehydration a firm commercial foundation. For the potato industry he has been able to "put over" two very big things—the establishment of potato grades and the recognition by Federal Reserve banks of potato warehouse receipts as collateral. The latter step has meant financing for potato growers on an equal basis with the growers of other staple products.

But the biggest thing is dehydration. Somebody was saying, the other day, that aero service would never become a commercial possibility from a transportation standpoint, because the machines could not carry freight, but would always be restricted to passenger and mail service. If we had to think of freight always as bulk that would be true, but anyone getting an inside view of the trend of things down at Washington, where the world's food development is reflected, may come to the conclusion that when the new method of transportation has been fully perfected our food will come in compressed form suitable for air carriage. At any rate, if I were running a condensery, or a canning factory, or engaged in the preparation and packing of food of any kind, or in the cold storage business, I would get posted on what is being done to take the water out of fruits, vegetables, eggs and milk and what may soon be done with meats to revolutionize our distribution and transportation methods. That the world is advancing in the face of the outbreak of the Hun is one of the best signs of the times; it is the one sign of victory that foreshadows a prosperous peace to follow the turmoil of the present day.—Alvin T. Steinel.

The Branding Iron

Applied by Elias M. Ammons

The present is an opportune time to quit teaching German in our educational institutions; it is also worth while to remember that after the war English will, more than ever, become the universal language of the civilized world. New York is now the money center of industry and commerce, with London second. Thruout the British Empire English is the medium of communication. The people of France and Italy will know more of our language after the war. Even in Japan, prior to Germany's starting hostilities, business with Germany was done in English and it is stated on good authority that more of our language was taught in their schools than all others, including Japanese. Isn't it high time, therefore, to cut out the teaching of foreign languages in our high schools, as a requirement for entrance to college? There will be numerous instances where the study of French, Spanish and other foreign languages will be advisable and for that reason, it should be made optional. The policy of forcing it upon the pupils, many of whom do not and cannot learn enough to be of material practical benefit is all wrong. Most of our boys and girls do not go beyond the high schools and should not be required to spend time to secure a valueless smattering of some foreign language when their efforts might be directed along more useful subjects. Surely, in this great English speaking nation, a boy should be permitted to acquire a high school or even a college education without studying some foreign tongue. The writer picked up a card in Nebraska the other day. It read:

IF YOU ARE AN AMERICAN AT HEART, SPEAK THE ENGLISH LANGUAGE.

IF YOU DON'T KNOW IT, LEARN IT.

IF YOU DON'T LIKE IT, MOVE!

* * *

The Kaiser makes a good deal of the announcement that he is picking half a million of his best troops to prevent invasion of his realms. We wonder why this sentiment against invasion did not impress itself on his royal majesty before he invaded and devastated Belgium.

Comment by Farmer Putnam

POLITICAL OBSERVATIONS BASED ON TALKS AT THE CASTLE ROCK FARMERS' PICNIC

DOWN to Castle Rock the other day I was to a farmer's picnic and it done me good to hear Judge Cunningham advisin' people to furgit party lines and vote fur loyal Americans, pickin' the man and his war record and not the party. That's the kind of talk I like. It don't make no difference whether a man says he's democrat, or republican, or progressive. It's whether his heart's in the war and whether he's goin' to he'p push the thing thru with all his might, no matter what his office. Some people might say that them small county offices don't cut no figger with the war but I think they do. Why, even the dog ketcher in them towns ought to be a loyal American and let no dachshund escape the noose.

Our congressman, of course, is important. I ain't a-goin' to name no names, but I'm advisin' all you folks to look up the records of them fellers that wants your votes and just make one test, and that is: How do they stand on the war? Now some candidates is tryin' hard to git around that by sayin' that means how do they stand right now. That ain't what it means at all. You ask anybody now whether he's fur the war and he'll tell you yes, because it ain't healthy fur him to say nothin' else. The proof is, how did he stand when the question was bein' argued just before we took a hand in the war?

Now you'll hear them uncertain fellers sayin' they was fur the President in 1915 "because he kept us out of war," and that is the platform on which they was elected to Congress. So it is, but they made the mistake of stickin' to that platform long after it was waterlogged and ready to go to the bottom. Lots of us agreed with the President in 1915 and lots of us didn't, but everybody with a level head was ready fur the plunge by the time Congress declared war in 1917, and nobody but them fellers that was wrong at heart held out ag'in war.

The way them kind of congressmen figgers is that the people has got a short memory. Of course the people do furgit lots of the sins of the politicians because it's quite a job to remember 'em all, but the scriptures speaks of the "unpardonable sin" and this bein' a traitor to the country is a sin that we don't furgive or furgit. I know one congressman that's tryin' to git back to Washington from a Colorado district that was one of the worst pacifists that we had down to Washington when the war broke out. He sez he had a right to vote ag'in war because he didn't believe in it, but he don't tell you-all what I know to be true, and that is, two days before our boys was to register fur the first draft in June, 1917, his speeches ag'in the draft was circulated in Denver by U. S. mail, carried free with his frank on 'em! President Wilson kept us out of war two years ago when we wasn't ready fur it, but this congressman was tryin' to keep us from goin' acrost so that Germany could come over here after disposin' of France and England. And then he's got the nerve to advertise to the people in the Denver papers that he wants us to send him back to Washington and put him on the ballot by petition, because his own party turned him down! It's no use, Ben, the kaiser don't git no representation in the next Congress from Colorado.

I reckon that'll be about enough on politics. I came near furgittin' to tell about the nice time I had at the picnic which was got up by Tucker, the county agent down to Castle Rock. Tucker is purty wise about his county agent work. He keeps out of sight as much as possible at them big gatherings, lettin' the farmers, etc., do the talkin'. That's the right way fur a county agent to do—git the farmers to run their own picnics and meetin's. They had a preacher to start the program—Rev. Taylor—and he's one of them practical ministers, combinin' the savin' of souls with the raisin' of war gardens. He's club leader fur the community and handles the boys and girls in their garden work. He introduced Judge Dillon, a old-timer, who just got back to Douglas county two years ago from Chicago. The Judge said he wouldn't make no speech, because his friend, Judge Cunningham, was on the program to make a patriotic address and he didn't want to steal his thunder. I reckon the Judge wouldn't have to steal no thunder if he wanted to make a rip-roarin' patriotic speech; he's got a Irish tongue.

Judge Cunningham lives in Colorado Springs now and he sez he's allus glad to git back to old Douglas county because it's such a prosperous place and it hain't got no poor farm and no good county jail. I don't know what that's got to do with his likin' to come back, but I ain't a-goin' to start drawin' no wrong inferences from his talk. If he likes the jail in Colorado Springs better, why, it's his lookout; I'm takin' it fur granted that he's speakin' from what he's seen of the outside of the jail and not from inside information, even if he is a lawyer.

You kin tell them lawyers every time; they're foxy. Judge Cunningham made a fine talk about the war and patriotism and our duty as citizens to vote fur men and not fur parties, and he sez they is great changes comin' after the war, but he didn't say just what it would be like. He wasn't takin' no chances in foretellin' the future, and that's where he's wise. Them fellers that's got it all figgered out to a t-y-ty how this old world is comin' out of her baptism of fire sadder but wiser and purged from all stain has got another guess comin'. We ain't a-goin' to see no millenium in two or three years from now, and if we don't look out we're liable to slip right back into the old habits ag'in.

No, this world war is just goin' to reform humanity only so fur as every one learns his lessons and does accordin'. As long as people will hate and backbite their neighbors and try to rob their friends and customers, why we're goin' to have wars of one kind or another. Them that's a-hollerin' fur the millenium please take notice that the millenium, like everything else that's good, begins at home.

The trouble with the war is that so many innocent people is killin' each other at the front, while most of the hardened sinners either is too old fur the draft, or too sick and sinful to pass medical examination. If we could git the no-accounts, the kings, dukes, anarchists, criminals, etc., together to extinguish each other the world would git better quick, but so long as the riff-raff stays at home to sell substitutes and attend to the profiteerin' why it'll take another war or two to bring about the final sanctification of humanity.

This ain't tellin' much about the picnic, but they wasn't much to tell; everything went off nice and smooth, includin' the good talks by two farmers, Mr. Lapham and Mr. Wyatt, and by Mr. Lovett, the state leader of county agents. That thar title of County Agent Leader is just a complimentary title; nobody kin lead a county agent.

THOMAS JEFFERSON PUTNAM.

The State government of Australia has guaranteed 83 cents per bushel for wheat, and the Commonwealth government has allowed an additional 12 cents per bushel for the 1918-1919 harvest, making a total of 95 cents per bushel.

When Belgium Stemmed the Tide

Four years ago the Belgian Army, war-worn and weak in numbers, confronted the Germans on the Yser. From Liege to the last narrow strip of their country they had resisted the invaders inch by inch, glorious even in retreat.

At the Yser the Belgians performed a signal service to the Allied cause by holding the Germans while the gaps were being closed in the Franco-British line to the rear.

Four years have passed, and the same nations are still at death grips along the Western front. America, too, is there, and has this opportunity because the Belgians kept the enemy from crossing the Yser long ago.

The same unfaltering courage, the same inspiration for sacrifice in our army abroad and in our citizens at home will give us victory.

The complete mobilization of the whole people is necessary and the telephone service has an increasingly important part in speeding the national effort.

More than 12,000 members of the Bell System are in military service. Those that remain at home must fill the gaps and do their utmost, with the co-operation of the public, to help win the war.

AMERICAN TELEPHONE AND TELEGRAPH COMPANY
AND ASSOCIATED COMPANIES

One Policy *One System* *Universal Service*

W.S.S. WAR SAVINGS STAMPS SUPPLIED BY THE UNITED STATES GOVERNMENT

What to Feed LAYING HENS YOUNG CHICKS CALVES—HOGS?

Every chick you save means added egg and meat production and more profits to you. A. & C. MILK MASH—a dry food—especially adapted for laying hens and milk fed chickens. It will keep your laying hens in good condition at all times without over-fatting them. Use it in conjunction with your regular feed or A. & C. Hen or Chick Feed. Makes chicks grow more rapidly. Keeps them healthy and develops quality with less expense than former feeding methods. Try a sack and be convinced. If not satisfied, your money will be cheerfully refunded.

Ask Your Dealer for Our Booklet

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It Solves the Better Feeding Problem

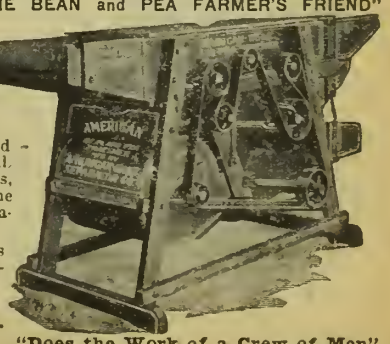
It also tells you about A. & C. CHICK FEED, HOG FEED and CALF MEAL. Your dealer can supply you and give you an absolute guarantee of quality or money back. Ask your dealer for booklet and get trial order. If your dealer does not supply you, we will ship you direct.

ADY & CROWE MERCANTILE CO. 1900 15th Street Denver, Colorado

"THE BEAN and PEA FARMER'S FRIEND"

The American

Double Cylinder
Bean and Pea Threshers
The Bean and Pea Farmer's Friend



Built in three sizes—14 x 14 inch, 20 x 20 inch and 26 x 26 inch cylinders, to meet the demands of all. Threshes and cleans all varieties of beans and peas, and shreds their vines, as they come direct from the field, in one operation. Capacity and perfect separation guaranteed.

PRICE When you learn the price of these threshers you will be surprised. Write today for catalog, full particulars and prices. Just drop us a card.

AMERICAN GRAIN SEPARATOR CO.
1021 Essex St., S. E. Minneapolis, Minn. "Does the Work of a Crew of Men"

Vaplon on Kansas Trip

We have just returned from a 1,200-mile trip thru eastern Colorado and western Kansas. We visited a good many farms in both states; had to do it to get water to keep alive, and while pumping water, quietly sized up the poultry situation. It doesn't look good to us. If Solomon did no better job with his fowls no wonder there was no taste to the white of an egg in his day. Seldom did we find a pure-bred flock; very seldom a thrifty, "live" looking flock; very, very seldom a good flock of early pullets, and almost never suitable quarters. There were a good many well built poultry buildings; some large flocks of pure-bred fowls, but generally the flock was a measly, hit-and-miss, big-and-little, runt-and-rooster bunch, two-thirds of which was in the slacker class, neither laying eggs nor laying on meat, and almost invariably the chicks were late hatched, some newly hatched. The buildings were generally too small, nearly always out of repair, but always unclean, insanitary, stuffy, vile. In a few cases we looked closely enough to find mites and bed-bugs galore; no wonder the old man didn't want to come home and go to bed! We saw little evidence of poultry shipments; no carloads and only a moderate amount of poultry in crates. There should be large quantities of broilers going to market, as the prices are good, but perhaps late hatching is to blame, and, as usual, the big shipments will come later. We bought some eggs, Kansas eggs, at the stores. The price was 30 cents a dozen and 30 cents was a good price. They were small, all colors, and not any too clean. It seems that the methods in vogue in Noah's time still obtain, and no attention is being paid to quality. We are not advocating extra large eggs, but we do hold for a 2-ounce egg. So long as people buy by the dozen they should have their money's worth, and a dozen eggs should go 22 to 24 ounces. They should be clean, also; when dirt helps to make the 24 ounces, it might be called obtaining money under false pretenses.

We hope many readers of Western Farm Life are availing themselves of our offer of free record blanks and are keeping accurate account of receipts and expenditures. Doing this not only gives valuable information but stimulates to doing better. There is money in poultry for the farmer, but only if he cares for his flock, produces good goods, and knows how to market the goods. Hogs cared for as are chickens would all die of cholera or appendicitis; cows neglected as are the hens would certainly never fill the milk pail; isn't it about time that we gave the faithful old hen her dues, and a fair chance to do her best? —W. E. V.

Colorado Ranks High in Progressive Legislation

(Continued from Page 5)

only a few parcels of land in the entire state of Colorado which have been registered under the act. The law has been almost completely ignored. Yet it is a good law. So Colorado has the advanced legislation just reviewed, and it too can be treated as the Torrens act—that is, wholly ignored. What is needed is not more laws, but the enforcement of those now on the books. There is no fault with the laws themselves, but the fault is with the people, who decline to breathe life into them.

No state has reserved to the people larger powers than has Colorado. The people have not exercised the powers that they have, and the farmers particularly have not seen to it that some of their number have been charged with the duty of formulating progressive legislation and remedial legislation. Farming is a business. Law-making should be a business. It does not do to say that anybody can make a law, merely because nearly everybody has tried it. A good law must be seasoned with human experience and take human frailties into consideration.

Should the farmers or any other considerable body of the electorate desire betterments of laws, they need no longer appeal to anyone save themselves. The constitution and the statutes provide all the machinery needed to bring about the desired ends. What is needed generally is an appreciation among farmers and everyone what the moral responsibility of the electorate imposes, and then an intelligent exercise of the functions reserved to the people in the constitution and laws of the state. In other words, the means for betterment, if betterment is needed, are with the people. If the people do not choose to use those means and the government remains bad, if it is bad, then it is bad because the people wish it to be bad.

Protein Feed for Hogs

Shortage in protein feeds for hogs can be met with alfalfa hay in all localities where it can be grown or obtained at reasonable prices. There are two ways in which this hay can be successfully fed—in small racks placed in protected sheds where the hogs may have free access to it, and by grinding it and feeding it in self-feeders or soaked in the form of thick slop. Usually the last cutting of alfalfa is saved for hog feeding, but for fear this cutting cannot be harvested in good condition, on account of weather conditions, a sufficient amount of the second and subsequent cuttings should be saved to supply enough feed for hogs. Rye sown in the fall makes good pasture for hogs. As soon as it is three or four inches high, the hogs can be turned in and left until snow covers it up. Rye also provides good pasture in early spring.

MYERS GLASS SEAT PUMPS

Don't practice false economy by purchasing a cheap, poorly constructed, light weight pump. Remember, you and your family will have to work the handle every day, and this will be a much harder task than if you had bought a guaranteed MYERS PUMP with the new easy operating COG GEAR HANDLE—actually pumps 33⅓% easier—and fitted with the famous leather saving MYERS GLASS VALVE SEAT

MYERS PUMPS come in many styles and sizes for every kind of a well or cistern. They are sold by good dealers everywhere, so that you can probably buy a Myers Pump in your home town. If not, write us for name of nearest dealer to you.

148 pages—Handy Pocket Edition—Pump Catalog free.

MYERS PATENT GLASS VALVE SEAT

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The Universal Thresher

Best Machine Ever Built for Beans

Farmers all over the West are rejoicing over the results this little machine gets. Handles 15 to 40 bushels an hour; cleans out sticks, sand and pebbles and hardly cracks a bean. A wonder on peanuts, peas, maize and head grains and even wheat and oats. Simple, easy to operate; dust proof, sturdy, metal construction. 3 to 6 men and a 6 to 8 h. p. engine keeps it humming. Write for complete details or see your dealer at once. Production limited; order early.

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"Get a WITTE" Feed Grinding ENGINE

All sizes, Stationary or Portable, 2 to 30 H-P. Cash, Payments or No Money Down, as arranged for.

Burn KEROSENE Just as easy and simple as gasoline—Cost less than half to operate—Buy Direct From Factory. Saves $15 to $200. Greatest of all engine books, and latest engine prices, FREE. Write today.

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One Man Does All The Work With WATERLOO BOY

The Original Kerosene Tractor

Farm labor shortage is no bugbear to Waterloo Boy operators. This one-man, three-plow outfit does more work with less expense than any three of your drafted farm hands. Distinctively simple, strong construction, with automatic trouble-preventing features wherever feasible, gives you assurance that

You Can Place Your Trust In Waterloo Boy Guaranteed Power

for continuous hard work at plowing, discing, harrowing, planting, harvesting, threshing, corn shelling, silo filling, etc.

Jno. E. Cox, Calipatria, Cal., owner of three Waterloo Boys, writes: "These tractors are working every day, doing heavy work—each of them with a load equal to a liberal 10-horse pull."

Some features of Waterloo Boy construction which appeal strongly to tractor buyers are: Unusual fuel economy due to our patented inbuilt carburetor and manifold, which gets full power from inexpensive kerosene; large, wide wheels, which, with extra transmission strength and a powerful motor, give great tractive power, enable the Waterloo Boy to move easily over soft ground without packing soil.

Learn more about this tractor. Our Illustrated Catalog gives many proofs of Waterloo Boy superiority in construction and performance. It is free. Write for it.

Waterloo Gasoline Engine Co.
5601 W. Third Ave.
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Help Save the Canadian Crops

When Our Own Harvest Requirements Are Completed

UNITED STATES HELP BADLY NEEDED
Harvest Hands Wanted

Military demands from a limited population have made such a scarcity of farm help in Canada that the appeal of the Canadian Government to the United States Government for

Help to Harvest the Canadian Grain Crop of 1918

Meets with a request for all available assistance to go forward as soon as our own crop is secured.

The Allied Armies must be fed and therefore it is necessary to save every bit of the crop of the Continent—American and Canadian. Those who respond to this appeal will get a

Warm Welcome, Good Wages, Good Board and Find Comfortable Homes

A card entitling the holder to a rate of one cent per mile from Canadian Boundary Points to destination and return will be given to all Harvest Applicants. Every facility will be afforded for admission into Canada and return to the United States. Information as to wages, railway rates and routes, may be had from the

United States Employment Service
Branches at Colorado Springs, Denver, Grand Junction or Pueblo

Original MILLER Bean Harvester

Beware of imitations, Buy the genuine.

LE ROY PLOW CO.
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Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Charge For Custom Grinding

Answer to L. R., Larimer county, Colo.:

The wheat miller who receives wheat from farmers' wagons and grinds such wheat on a custom basis or exchanges it for flour or feed may charge not to exceed 35 cents per bushel for each 60 pounds of clean wheat so received. The miller is required to return to the farmer flour and feed in accordance with a specified schedule.

The maximum quantity of flour which a wheat miller may deliver to any individual consumer without special permission is 25 pounds for persons living in towns or cities and 50 pounds for residents of rural and farming communities. The regulation of the amount of flour which can be obtained in exchange for wheat, and the requirements for the sale of substitutes to individual consumers are somewhat different in different states. Information covering these regulations will be supplied by the Federal Food Administrators on request.

Cottonwood Bark Disease

In answer to inquiries regarding the bark disease that is causing much damage to cottonwood trees we have the following from State Forester W. J. Morrill:

The disease may be diagnosed by patches of shrunken bark looking like the effect of sun-scald. On the dead patches at a certain time reddish, twisted threads appear. The disease occurs on the trunks and on the branches, usually persisting until the tree is killed. The sapwood is discolored with a reddish tinge and the inner bark smells foul and turns dark. Even the sprouts are usually infected, so there is little to be gained by cutting the attacked tree off at the ground, depending upon sprouts to furnish a new tree.

The disease is a fungus known as Cytospora chrysosperma, and enters the bark thru some injured place or wound. Accordingly, when a limb is pruned the wound on the tree should be protected by painting with lead paint, creosote, coal tar, or grafting wax. "Heading back" the trees should not be practiced because of the large surface of wounds exposed to infection. As a general preventive measure the trees should be kept in vigorous condition by supplying the needed water, cultivation and fertilization. Cutting out the infected bark and applying coal tar creosote or some other fungicide seems to have been instrumental in saving some cottonwoods on the college grounds. By the selection of native species and with stimulation to active functioning, our cottonwoods may still retain a place in street and lawn ornamentation in spite of this disease, which seems to be gaining headway.

Catarrh in Cattle

Answer to R. D. Kenyon, Idaho:

While it is not possible to make a complete diagnosis from the brief description of symptems you give regarding the condition of your cow, our Veterinary Department advises that the animal may be merely suffering from catarrh or cold in the head. Labored breathing and a bloody discharge from the nose are, however, symptoms of several diseases and may indicate something serious. If the animal shows no improvement by this time and has gone off on her appetite, it would indicate more than mild affliction and we would advise that you consult a veterinarian. Early stages of acute catarrh in farm animals often pass unnoticed, as the symptoms are not marked. The lining membrane of the nostrils is at first dry and red. In a few days a discharge appears. This is at first watery, but may become catarrhal, heavy, mucuous, and sometimes pus-like. The eyes are generally affected, the lining membrane of the lids looks red, tears flow over the cheeks. Sometimes there is a fever and the appetite may be impaired and the animal appear dull. If the throat is affected there is some coughing. Heavy breathing is a common symptom. If the attack is mild it may terminate in a week or ten days, but it may become chronic if proper attention is not given the animal. In mild cases good care and good quarters are all that is necessary. Letting the animal inhale steam is useful in the early stages. Soft and easily digested foods are advised. If there is coughing a mild liniment may be applied to the throat. The following mixture may be given: Tincture aconite, 6 drams; tincture belladonna, 1 ounce; syrup of squills added enough to fill an 8-ounce bottle. Give one tablespoon three times a day.

Wants Federal Farm Loan

Answer to A. D., Las Animas County, Colo.:

Yes, the Federal Land banks furnish money to farmers under circumstances such as stated in your letter. Loans are made only on lands clear of debt, but you can use the money from the land bank to pay off the debt now on your place. Loans are made on long time up to 36 years, with the privilege of paying off in installments and interest at the rate of 5½ per cent. The terms are much easier than you can get from private sources, or from the State School Fund. The State school money is loaned on five years' time, and you are required to pay off the principal in a lump sum. It is necessary for you to join a Farm Loan association, if you wish to apply for a loan. You can find out from your county agent, Mr. C. E. Smith, at the courthouse in Trinidad, whether there is an association in your neighborhood which you could join.

Curing Homestead Default

A filed on homestead. Shortly after he filed he was injured, confining him to his bed about eight months. He was unable to do any work on his homestead for over a year and he did not know that he should notify the land office and ask for an extension. B goes onto the land, puts up tent, does some plowing, but does not move on the land, but continues his residence on adjoining quarter. Does he acquire any priority by this action? What steps shall A take to reestablish his rights, or what steps must B take to complete his priority, if he has any?—Subscriber, N. M.

Residence on an adjoining tract of land is not compliance with the homestead law, altho a person may make improvements and cultivate the land. Further, settlement rights cannot be acquired on land which is covered by the entry of another. If the person who made the homestead entry failed to establish his residence on the land because of misfortune and failed to apply for extension of time because of ignorance of his right to do so, a showing of the facts would be a complete defense to any contest which might be brought against him. This could not avail him, however, if he had failed to move on the land within the 6 months' time provided for by the statute. He should go upon the land and establish his residence, and if he does so before a contest is filed, he has cured his default.

Pigs Have Skin Disease

I have a bunch of March pigs that have some trouble that I wish you could tell me what to do for. About six weeks ago I noticed that they had a skin disease something like mange. I dipped them two or three times and they appeared to be over it, but about that time I noticed one of them acting as tho something was hurting him in his nose or head. It would shake its head and run and squeal, and then try to root and lay down on its feet and stick its nose out on the ground and lay that way for a minute or two and then get up and appear to be all right. I thought it was all right until the last week they have nearly all been acting the same way, and some times two or three will have a spell like this all at the same time. I notice their noses are of a reddish color and also their hoofs are the same. They seem to be all right, only when one of these spells comes on them, and it will only last for a minute or two. I am feeding them skim milk with bran and water made in a slop. They have free range to alfalfa and rye pasture, and a little corn.—C. E. W., El Paso County.

I am inclined to think that the skin disease is affecting the nose and feet, producing an itching sensation which is probably responsible for the peculiar symptoms shown by the pigs. I would suggest that you keep up the dipping at least once a week for five or six weeks. The addition of a gallon of kerosene to each lot of dip will be found advantageous.—I. E. Newsom, Veterinary Department, Colorado Agricultural College.

May Buy Sugar Output

The President has approved the creation of a sugar equalization board by the Food Administration. This step seemed necessary in order to equalize the cost of various sugars and secure better distribution. Herbert Hoover has been appointed chairman and George Rolph, sugar director in the Food Administration, president. The board will be incorporated with a capital of $5,000,000, the stock to be held by the President for the United States government.

The arrangement will facilitate joint dealing with the Allies in foreign sugars. Under certain circumstances, to keep production at a satisfactory level, it may be advisable to acquire the output of some beet sugar factories that cannot under the present price of beets be sold to the public at a reasonable price. Where the cost of production, as in the case of certain of these factories, has advanced considerably, the board will absorb the peak prices by the small profits realized on sugars produced at less cost, and thus equalize the price to the consumer.

The province of Milan, Italy, shows a decrease in livestock (based on the census of 1908) of 21 per cent for horses, 18 per cent for mules and eight per cent for swine.

"Hurrah! Dad Got the Whole Avery Outfit"

WHEN the "whole Avery Outfit" arrives on your farm you can say good-bye to a lot of expense and look forward to bigger crops and more profits. Your work will be easier and more interesting.

The "Whole Avery Outfit" Will Give You

an Avery Tractor for doing your heavy work, such as plowing, preparing the seed bed, harvesting your grain crops, and road work,—

an Avery Motor Cultivator for planting and cultivating your corn, beans, cotton, and other row crops,—

an Avery Grain-Saving Separator for threshing your grain, clover, kaffir corn, rice, etc., and putting it where it belongs, in the wagon box and not in your straw stack,—

an Avery Plow in either light or heavy style to fit the soil conditions on your farm.

Power For Every Size Farm

Avery Tractors are built in six sizes. You can get a size Avery Tractor to exactly fit your size farm. The five sizes from 8-16 h. p. to 40-80 h. p. fit all farms from the average up to the largest sizes. The little 5-10 h. p. is built especially for small farms or for doing the light work on larger farms.

You can also get an Avery Plow in any size from two to ten bottoms. Avery Threshers are built in small, individual sizes as well as for large threshing runs.

The Avery is the one complete standardized line of farming, threshing, and road building machinery.

It is built entirely in the Avery factories and is backed with Avery service through Branch Houses and Distributors covering every state in the Union.

The Tractor that turns Kerosene into Gas

You want a real kerosene burning tractor. That is what you get in the Avery. They are the only tractors with a Duplex Gasifier fuel system. It does the trick—turns kerosene into gas.

Avery's are the tractors with the patented sliding frame transmission that makes expensive intermediate gears, shafting and bearings, unnecessary. The tractors with the renewable inner cylinder walls. The tractors with the adjustable crankshaft bearings. The tractors with the low-speed tractor motor specially designed for field work or belt work, etc.

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GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Ayrshires Coming Into Colorado

Twenty-two head of fine purebred Ayrshire cattle have just been shipped into that rich farming district north of Limon. They were obtained from the state of Wisconsin on a community shipment, and purchased by a committee composed of Mr. G. A. Sommerville, one of the present owners, and Mr. F. B. Schroeder, fieldman for the State Dairy Commissioner, for Mr. R. D. George, G. A. Sommerville and W. M. Cady.

The owners of these cattle have given long and careful study to the adaptability of this breed to their section of the state. While these cattle have been used but very little in the eastern part of the state up to the present time, every owner has been especially well satisfied with the results. A few grades have been found over in the western part of Kansas, under similar conditions, that have gone beyond expectations in every particular. The experimental farm at Colby, Kansas, has been grading up a small herd, and results obtained have been exceptionally satisfactory.

The native home of the Ayrshire is in southwestern Scotland in the county of Ayr, from which the breed derives its name. Many different lines of blood formed the foundation stock, mainly those that were associated with larger milking capacity. Herds in this country run true to their breeding, and are very rugged and hardy, good rustlers, ready to eat at all times, and take advantage of almost any kind of forage or pasture. The cows are of fair size, averaging between 1,050 and 1,100 pounds. The udder development of the modern Ayrshire is the most perfect of any of the dairy breeds. The fore udder is carried evenly and well forward, and the rear part is carried well up behind. Much criticism has been found on many individuals of the breed in the past on having short and small teats, which makes milking difficult. This fault has been gotten away from very largely in late years.

The Ayrshire as a milk producer has ranked high, and is of good quality, testing nearly 4 per cent. The milk has long been a standard for making cheddar cheese in Scotland, as it contains about the standard amount of fat and solids.

Professor Plumb has the following to say of them as a beef breed in his book on "Types and Breeds of Farm Animals":

"The Ayrshire as a producer of beef ranks among the first of the dairy breeds. It is natural for animals of this breed to carry somewhat more flesh than the more refined dairy type. Ayrshire steers feed to make a very salable carcass, with a killing quality more acceptable to the butcher than the other dairy breeds lacking the high fat color of the Jersey and Guernsey and the offal of the Holstein-Friesian. Other evidence also indicates that the Ayrshires mature and feed slowly."

Cross-bred Ayrshires also have the advantage of taking a good color for the butcher market if crossed with the beef breeds. Ayrshire bulls on grade cows will improve the herd's milk-producing powers.

This shipment is the largest of Ayrshires that has been brot into Colorado at any one time. Their adaptability to the short grass country will be watched with a great deal of interest by the dairy farmers of the eastern part of the state, and there will, no doubt, be a great demand for the increase or surplus stock for starting other herds.

Mr. Conrad Reister has a fine herd of thirteen Ayrshires on his Riverside Dairy Farm near Steamboat Springs. They were brot into the state last fall from Wisconsin, and have given above a twenty-four pound average for the herd, which is excellent considering their recent change. Mr. Reister also has a very fine herd sire which took second in his class at the National Dairy Show last year.

The other known breeders of purebred Ayrshires in the state are: Claude Bashor and Alfred Bashor of Boulder; A. J. Biby of Goodpasture; Thomas H. Dillon of Bethune, and W. H. Smith of Carr.—R. McCann.

Dr. McCullom to Be in Denver

On September 4th there will be a lecture delivered in Denver by Dr. V. E. McCullom on food values, with reference to special properties of milk and its products. Dr. McCullom is now with the John Hopkins University and formerly was with the University of Wisconsin. It was at the latter institution that the experiments were carried on, the results of which have made Dr. McCullom one of the foremost men in the dairy world today. As he so aptly expresses it, his "one particular business in life at the present time is spreading the gospel of the value of milk and its use in the diet, and the thing that is nearest him is the support of the dairy industry in this country."

In his tour across the United States to San Francisco, stops at large and important points are being made. Arrangements have been made for a day at Denver on his return. His message is one not to be delivered in flights of oratory, but comes straight and sincere, direct from the shoulder, and without prejudice or favor.

This talk will impress you so that it will long be remembered, from the fact that it is something new and different, and founded upon facts proven by the man himself, who is talking to you. Personally the writer regards Dr. McCullom to be one of the most inspiring of lecturers. This is something you cannot afford to miss from a money, health or educational basis. It is something you will want to hear and tell your friends about.—R. W. McCann.

Southwestern Jersey Show

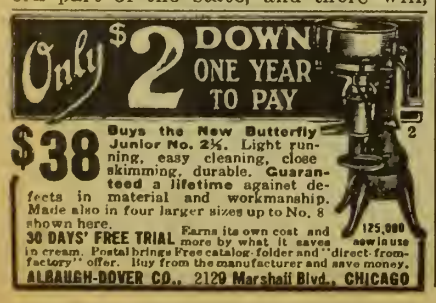
Jersey breeders in the intermountain states are very much interested in the forthcoming Southwestern Jersey Cattle Show which is to be held at Kansas City, September 16 to 21. One of the reasons for this interest is the fact that European dairy herds have been depleted by the war, which will cause a great demand for foundation stock from American herds at the conclusion of the conflict. This point will be emphasized at the show where plans are to be discussed for meeting the demand.

Dry Farming Where Summers Are Rainless

(Continued from Page 7)

quires the application of the most advanced methods. There is no rain as a rule in May and June for germination purposes; but a properly prepared field will carry sufficient moisture two or three inches under the surface to start any late crop, if the seed is deposited in the damp ground under the mulch. Besides beans, about 2,000,000 bushels of corn were raised in this manner last year, and a quantity of Sudan grass, milo and other sorghums, the amounts of which have not been tabulated. There is no grass hay on the market in California, but they raise and sell barley hay, oat hay, wheat hay, and alfalfa in the bale. This is a very neat arrangement for the dry farmer and deserves to be copied in other states, for whenever a dry farm crop fails to mature grain, it can be cut and baled for hay, always finding a ready market.

Dry farming has always existed on the Pacific coast and the fallow system for raising grain seems to have been practiced by the earliest settlers as far back as 1850. The Mission Fathers from Spain, which is very dry in parts, dry farmed as well as irrigated when they came to California, and probably taught it to the Indians. The dry farming history of the state demonstrates many important facts which are of much practical value. Some of these are: that trees will grow with much less water than some people imagine, that fruit may be produced on land where the top soil is too poor for grain, provided the lower levels are of good substance, that the hygroscopic properties of plants and trees are a factor in drouth resistance, that crops can be raised on conserved moisture without any rain whatever, and that sufficient water for germination purposes can be held in the top soil for a period of six to eight weeks after the rains have ceased.



"Slipping" not "Saving"

"I kept slipping back two feet every time I went ahead one." That's what the small boy gave as an excuse to his teacher for being late for school one winter day.

And that's just what is happening to the cow owner who is trying to get along without a cream separator or with an inferior or half-worn-out machine. Like the small boy he is "slipping." He thinks he is thrifty, but for every dollar he saves by not buying a De Laval he loses two through not having one.

It *isn't* economy to do without labor saving and money saving and food saving machines. It *isn't* economy to feed 40-cent butter to the calves and hogs.

It *is* economy to buy and use only the best cream separator made—and that's the De Laval.

Viewed from every standpoint—clean skimming, ample capacity, ease of operation, freedom from repairs, durability—there is no other cream separator that can compare with the De Laval.

It's real thrift and genuine economy to buy a De Laval Separator NOW.

Why not see the nearest De Laval agent at once! See a new 1918 De Laval machine for yourself. Try it to prove every claim made for it. If you don't know a De Laval agent write direct to one of the addresses below.

THE DE LAVAL SEPARATOR CO.

165 Broadway, New York 29 E. Madison St., Chicago

Butterfat a Necessity

For many years the world's dairy interests have paid homage to two men who did more than all others toward the development of dairying on the farm—Dr. Carl Gustaf Patrik De Laval, inventor of the centrifugal cream separator, and Dr. S. M. Babcock, who discovered the Babcock test. Now a third illustrious name has been added—that of Dr. E. V. McCollum, professor of biological chemistry in the Johns Hopkins University, School of Hygiene and Public Health, who has proved beyond dispute that there is a substance contained in butterfat which is absolutely necessary in the human diet if the race is to survive and progress.

Dr. De Laval's invention revolutionized farm dairying, in that it enabled the cow owner to do away with the slow, wasteful, inconvenient methods of milk separation, and to recover quickly, easily and economically all the butterfat from milk.

Dr. Babcock's discovery was of equal importance, inasmuch as it not only established a new standard for appraising the market value of milk, but supplied the means of gauging the worth of the individual breed and the individual cow as a producer.

Dr. McCollum's discovery, coming at a time when the dairy industry was facing a crisis, has dealt butter substitutes a crushing blow and at the same time laid bare the folly of a decreased consumption of milk.

Pit Silo for Small Herd

A. S., Crowley County:

In answer to your question regarding a pit silo:

It is impracticable to build a pit silo less than eight feet in diameter for the reason that there must be plenty of room to get the silage out, either by rigging or ladder. There must be room inside for a man using a fork, and to make the diameter less than eight feet would be decidedly inconvenient, altho there are a few silos in eastern Colorado as narrow as seven feet inside measurement. If one uses a ladder and brings up the silage by hand you can see that a diameter of four or five feet would make the ascent too steep.

Theoretically a narrow and deep silo insures the keeping qualities of the silage better than one that is of larger diameter and shallower, but the diameter has to be such as will allow the convenient removal of the silage.

To get sufficient pressure the depth should be at least twenty feet.

A silo twenty feet deep and eight feet in diameter has a capacity of about 17 tons, if filled with well matured corn.

Feeding at the rate of about thirty-five pounds per cow per day, this would give you enough ensilage for eight months' feeding—about twice as much as you would need, if you are figuring only on summer use. If you want to use silage to advantage you should have eight or ten cows. You could not build a satisfactory silo of the pit type for only three or four head.

There is something you can do, however, to provide silage as a temporary expedient, and that is to build a trench silo and fill it with uncut corn—the whole plant just as it comes from the field. This type of temporary silo was described in our issue of July 1st.

Grain to Supplement Pasture

Does it pay to feed grain to cows on pasture? The results obtained at the University of Missouri Agricultural Experiment Station indicate that it depends largely upon how much milk the cows give and how good the pasture is. If a cow is producing less than a pound of butter each day the necessary food can be obtained from a good pasture. If she produces more than this some grain can be fed with profit. This means that a Jersey cow should be able to get enough food from grass to make about 20 pounds of milk daily and a Holstein about 25 to 30.

It will pay to feed grain to all giving above this amount as it becomes impossible for the animal to gather sufficient feed in the form of grass. A cow giving a pound and a half of butter daily should have about five pounds daily and giving two pounds of butter, should have seven or eight pounds of grain. When not more than four or five pounds of grain are fed it can be all corn. If more than this is needed, some bran or a small amount of cottonseed meal should be added. These recommendations hold good only when pastures are good. In late summer it will often be necessary to feed more grain to high-producing cows or to give some silage or green feeds to help out the pastures.

Colorado Year Book

The first Year Book ever prepared by the state of Colorado has just been completed by the State Board of Immigration and is now ready for distribution. Free copies are to be sent to public libraries, county commissioners, educational institutions, etc., but owing to the heavy cost of production, general free distribution to the public is impossible. The book will be furnished at actual cost to any who desire it, which is estimated at 40 cents per copy. It contains more information relative to the state than does the Year Book of any other state in the Union. Subjects such as area, population, county and town finances, educational statistics, highways, railroads, telephone and telegraph mileage, bank statistics, per capita figures and a wide variety of other information are treated by counties in sixty-four statistical tabulations covering 212 items of information. Twenty-five tables cover 136 lines of information for each of the 63 counties of the state. The land of the state has been classified carefully by counties and considerable space has been given to crop production and to information concerning homesteads, national forests and similar subjects.

The Grange

Offices 1616 Arapahoe St., Denver
C. W. SWAYZE, Editor

Officers

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K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 1616 Arapahoe St., Denver, Business Agent and Secretary.

Colorado Grangers will be interested in the following statement issued by Brother Oliver Wilson, Master of the National Grange, regarding the work that is being done by the farm advisory board appointed to confer with the Department of Agriculture and the Food Administration on agricultural problems:

There has been much speculation as to how far this committee would be allowed to go and whether its work would be of any real benefit. I think the work at the recent meeting of the seven members of this committee, who have been chosen as an executive committee, will prove to all that this is a real, live, active committee, and they are expected to consider all problems affecting agriculture.

The committee was in session from May 27th to 30th. It had before it many questions, and made several recommendations to the agricultural department and food administrator. It is not in the province of this committee to make the suggestions public until passed upon by the department. This committee is now represented on the War Industries board and will be called in counsel whenever that body has to consider the fixing of prices. For the first time the farmers will have a voice in their own affairs.

This committee is desirous of hearing from farmers on any and all questions, and especially asks members of the Grange to discuss all problems which in any way affect agriculture, and forward their conclusions to some member of this committee, and it will receive due consideration. There is an effort being made by manufacturers and dealers to standardize farm machinery. This question was before the executive committee and will be considered very carefully by the full committee at their next meeting, probably in July. If farm machinery is to be standardized it should be done in the interests and to the profit of the user, and not alone to the manufacturer and dealer.

After the committee heard many complaints from farmers regarding delay in shipping and unloading livestock as well as other freight, it passed the following resolution:

"It is resolved as the sense of this committee that the greatest and most discouraging obstacle to the increase of agricultural production in every line is the delay and uncertainty connected with the transportation of freight, resulting in losses not only from limitation of business in non-perishables, but in shrinkage, damage and deterioration in quality of all perishables, including livestock; and we respectfully request that every effort be made to remedy this situation as rapidly as the exigencies of the national situation may permit."

If this complaint is general the committee would be glad to know it by private correspondence or, what would be better, by resolutions passed by Granges and other farm organizations. The committee stands ready to consider any question which affects agriculture and desires the full co-operation of all farmers. Again I urge our membership to make use of this committee in making their wants known to government officials.

OLIVER WILSON,
Master National Grange.

Italy Drafts Farm Labor

To prevent losses of food likely to occur during the harvest season thru lack of farm labor, Italy has issued a decree of far-reaching scope. The following classes are subject to be called for work on farms during the harvesting and threshing season:

Citizens of both sexes, between the ages of 15 and 65 who are cultivators of land or agricultural laborers and who, in addition to working their own land, can be of help on land belonging to others.

Persons accustomed to agricultural work even if they have abandoned such work within the last five years.

Persons who tho not accustomed to agricultural labor are physically fit for such work or, being out of work, are considered capable to undertake it.

The foresight which Italy has shown in solving her agricultural problems is an additional example of the recognized importance of ample food for maintaining the strength of the nation and winning the war.

Army Makes Big Meat Purchase

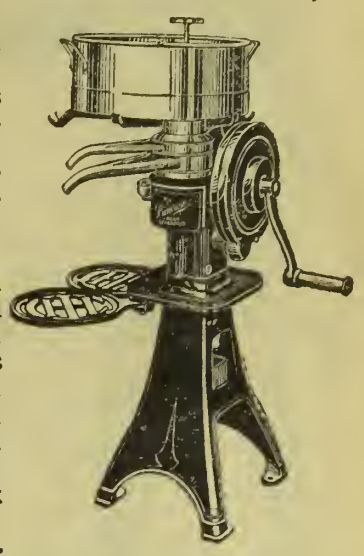
The largest single order for bacon and canned meats in the history of the world—99,560,000 pounds of bacon and 134,000,000 pounds of canned meat—was recently placed by the Quartermaster's department, U. S. A., for the American army overseas. Louis F. Swift, one of the Chicago packers, in commenting on this, said the order will take the bacon from approximately 1,900,000 hogs, and if other work were dropped to produce it would be equivalent to the total bacon production of the five largest Chicago packers for nearly five weeks. However, six months will elapse before delivery is to be completed. At the current prices on the day when the purchase was made, the packers would pay the livestock producers about $80,000,000 for the necessary hogs and over $50,000,000 for about 900,000 cattle required. The cattle will cost the packers twice as much, and the hogs two and one-half times as much as in the pre-war period.

Shall we give our best in men and not in food?—U. S. Food Administration.

The past can never be undone. The food you should have conserved will never reach a hungry mouth.

Stop the Cream Loss!

IF YOU are still setting your milk and skimming by hand, you are losing anywhere from one-fourth to one-third of your cream. If you are using a separator, and it is not one of the best, you are still losing an amount of cream that would surprise you if you knew it. Every farm loss or leak that can be stopped this year should be stopped. Buy a **Lily** or **Primrose** cream separator and stop the cream loss.



Don't imagine that cream left in the skim milk will fatten pigs and calves faster. It has been proved scores of times that stock thrives as fast on warm separator skim milk, when a little meal or flax replaces the fat. Cream in the skim milk is dead-loss cream!

Lily and **Primrose** separators get that cream. We can prove to you that they get it all, except about one drop in each gallon.

Besides that, they are well-known as simple, easy-running, easily-cleaned machines, that last and do the same good work year after year. Buy a **Lily** or **Primrose**—it will pay back its cost in cream you may now be losing. See the local dealers who handle these separators, or, write us for catalogues.

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Time and again cattle have sold on the Denver market for higher prices than the same cattle would bring same days at the Missouri River.

Why don't you market your cattle and sheep at Denver, where they will bring you greatest net returns!

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Rub your finger over the surface of an axle and feel how rough it is. It is covered with tiny seams and pores which cause friction. Use

MICA Axle Grease

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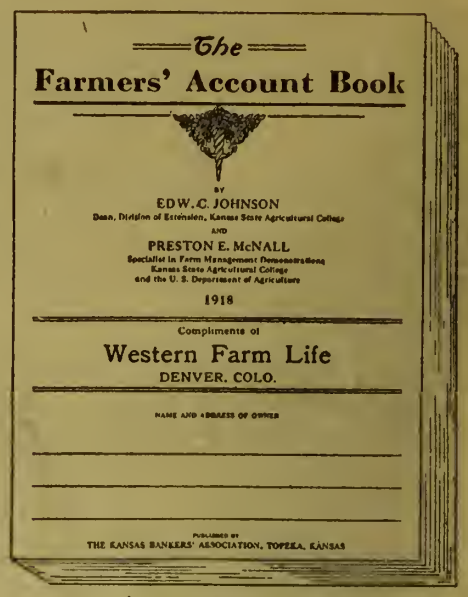

Actual size 8½ x 11 Inches

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WESTERN FARM LIFE, 1402 Arapahoe Street, Denver, Colorado

Information on Soy Beans

Has any Colorado, Utah or Idaho farmer tried soy beans? If so let us have the benefit of your experience with this crop. We have received a number of inquiries about soy beans. At present there is little definite information regarding the crop under semi-arid and high altitude conditions, but is is believed that hardy varieties of soy beans can be grown in the Arkansas valley of Colorado under irrigation for forage. The following from a Nebraska bulletin by Prof. T. A. Kiesselbach is published for the purpose of answering inquiries on the subject:

The changed conditions affecting the world's food supply, brought about by the war, call attention to the soy bean as both an emergency and a standard food crop for human consumption.

The soy bean merits use in every household as a regular part of the family diet. It is a palatable, nutritious, and healthful food and lends itself to a varied usage. It has been used for several thousand years in China and Japan as the chief source of protein supply in the human diet. In the United States, where a great variety of vegetable and meat foods has been available, the soy bean has not come into prominence as human food, but has rather been thought of primarily as food for stock.

Altho soy beans are an excellent supplementary protein stock feed, with a feeding value about equal to that of oil meal, investigations indicate that the yield is not sufficiently large to justify growing them for this purpose in Nebraska where alfalfa can be grown successfully. An acre bearing three tons of alfalfa hay produces approximately two times as much digestible protein and five times as much energy value in the form of carbohydrates and fat as one acre of soy beans yielding 15 bushels. On the other hand, soy beans are the most productive of protein and energy value of any of the luguminous concentrates suitable for human consumption.

The oil of soy beans is also extracted commercially for many purposes, such as manufacturing paints, lubricants, soaps, rubber, and as a substitute for olive oil for table use. These industries are increasing in the United States and make a growing demand for soy beans. The yield of soy beans in the southern states in proportion to the yield of cereal crops is so much greater than in Nebraska that a natural adjustment of production is not likely to make it profitable for Nebraska farmers to compete extensively in the growing of soy beans for commercial purposes. * * *

A comparison with other vegetable foods shows soy beans to be unsurpassed in protein content. The navy bean is famous as a protein food and substitute for lean meat, and has come into universal household use. The soy bean contains 1.6 times as much digestible protein as the navy bean, 18 times as much digestible fat, and 1.5 times as much ash. It contains 3 times as much protein as wheat and 28 times as much as potatoes. * * *

There is as much variation in the length of growing season required by different varieties of soy beans as there is for corn varieties. Varieties may be had which are too late to mature anywhere in Nebraska, and others are sufficiently early to mature in any portion of the state except perhaps in the extreme west and northwest. The full growing season is required for soy beans the same as for corn. They cannot be planted quite as early as corn, the proper time being between May 20 and June 5. Late May is the most suitable time for planting. The best adapted varieties for any locality are not ready to be harvested for grain until shortly before frost. The best early commercial variety is the Early Yellow or Ito San. This variety ripens at the Experiment Station in from 100 to 105 days—the time varying somewhat in different seasons. More days would be required in portions of the state having cooler nights and somewhat lower day temperatures. * * *

Only a small area of soy beans is recommended for the inexperienced grower until the methods of production are thoroly understood. Rabbits are very fond of soy beans, and when very numerous, may entirely destroy small fields. Nearly all farmers located where rabbits are not too numerous might well grow a fraction of an acre of soy beans. These could be grown as part of the garden. Practically every community has one or more grinders suited to grinding soy beans into flour. A 15-bushel-per-acre crop at 10 cents a pound would be worth $90 per acre. Whole soy beans are retailing in Lincoln in 1918 at 15 cents a pound, while the flour sells at 20 cents a pound. It must be understood that these high prices are due to unusual conditions.

Commercial production on a large scale is not recommended until a definite market has become established.

Soy beans should ordinarily be planted between May 20 and June 5. An early variety like the Early Yellow may be planted as late as June 15 and be expected to mature seed in eastern Nebraska. The latter part of May is the most favorable time. Early planting results in somewhat earlier ripening. Planting before the soil is thoroly warmed and continued warm growing weather prevails may result in slow growth of the beans and excessive weed growth. * * *

The seed bed should be prepared the same as for corn. Soy beans are commonly surface planted on plowed land. Shallow listing is sometimes practiced in western Nebraska. An ordinary grain drill, with part of the spouts closed so as to give proper space between rows, is a very suitable machine for planting. Corn planters with bean plates also give rather satisfactory results. * * *

Soy beans usually require four cultivations, and in most years one hoeing. The field should be disked and harrowed just prior to planting. This will check the weed growth, which is important with a slow-growing bean plant. * * *

Soy beans should ordinarily be cut for seed when about two-thirds of the leaves have fallen and the pods have turned brown, or blackish, according to the variety. If cutting is delayed beyond this stage, considerable loss of seed may result from shattering. This is especially true in case of frost, and of alternate wetting and drying. Inexperienced growers are liable to suffer serious loss from shattering of the seed thru improper handling.

Soy beans usually stand rather erect and may be harvested with either a mower or a binder. In case a mower is used, a side delivery attachment will avoid unnecessary tramping and shattering by horses. * * *

Soy beans may be grown for forage in the same manner as when grown for a grain crop. They would be much more satisfactory for this purpose if they could be grown without cultivation; but weed difficulties usually make this method impracticable. About one and one-half tons of hay are produced at the Experiment Station as compared with three and one-half tons for alfalfa. The feeding value of each of these crops is about equal. The later varieties are most suitable for hay. More difficulty is experienced in curing soy bean hay than alfalfa. A week or ten days may be required to cure sufficiently for stacking.

The Experiment Station ground and sold considerable soy bean flour during the winter 1917-1918, in an experimental way, to a rather large number of people. This flour was relished and held in high favor by nearly all who used it. It was without doubt one of the most satisfactory substitutes for wheat flour on the market. The keeping qualities of this flour have proved very satisfactory during the winter time.

Farm Home Department

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Subtract one pound of sugar from three, reduce to ounces and divide by thirty and you have your new daily sugar ration— 1-15 ounces or 6 2-5 level teaspoons. Don't throw away the fractions, please; reduce to whole numbers at the end of the month and you will have twelve teaspoons of sugar.

Do a little figuring on this new sugar ration of two pounds for ninety meals and, when you put your head to it, you will find the answer to the problem. There is a cafeteria in the U. S. Food Administration building that managed to make 50 pounds of sugar do for 6,000 meals. This ration covers the use of sugar for all purposes, including tea, coffee, desserts and in cooking. Most of the desserts contain such substitutes as honey, maple or other syrups; the use of white sugar is confined almost exclusively to tea and coffee.

Tomato Paste

As a space-saver in canning and a time-saver in cooking, tomato paste will commend itself to the thrifty. Get rid of the water in fresh tomatoes and you can pack all the food value, flavor and color in one-tenth of the original space. Bottle the paste in any size bottle, cork and seal for use in soups and sauces. One teaspoon of paste will make one dish of soup.

Plain Paste—Boil the tomatoes until soft. Crush thoroly and pass thru a fine sieve or screen to take out the skins and coarse portions of the pulp. Place the pulp and juice which pass the screen in a shallow pan and boil down gently over a slow fire to a thick consistency. Then place it over hot water or in a slow oven where the heat is not sufficient to cause the paste to stick to the bottom of the pan. Allow the pulp to evaporate until it reaches the consistency of peanut butter. While still hot add about two ounces of salt to a gallon of the paste and pack into hot scalded jars or bottles. Sterilize in wash-boiler from half hour to an hour.

Dried Paste—Spoon paste into plates or pans in thin sheets and dry thoroly in a very slow oven, from 130 to 140 degrees, until it can be cut in squares or rolled in sheets. Store carefully in moisture-proof containers.

Can Fruits with Honey

Honey imparts a particularly delicate flavor to canned fruits. In recipes for preserving and canning substitute honey for sugar pound for pound, or two cups of honey for three cups of sugar.

Honey Apple Marmalade

Cook tart apples until smooth. Add one pound of honey to two pounds of fruit. Cook until about like batter. Then put into jars without sealing. In a few weeks it can be cut out.

Honeyed Plums or Pears

Make a syrup of one cup of honey to two cups of water, boil five minutes and have it ready to pour over the fruit.

Wash plums in cold water, dry and prick in four or five places with a needle. Place a layer of plums in boiling syrup and boil gently for five minutes. Pack fruit into hot sterilized jars, fill with honey syrup, adjust covers, sterilize under boiling water ten minutes, tighten covers and test for leaks.

Pare, quarter and remove cores of Bartlett pears. Drop in slightly salted water, blanch one and one-half minutes in boiling water, then dip instantly in very cold water. Drain and pack in hot sterilized jars, fill with boiling honey syrup. Adjust covers and sterilize under boiling water 20 minutes for quart jars. Seal and test for leaks.

Fruit Confections

Now is the time to revive such old-fashioned delights as fruit "leather" and fruit paste. "Leather" may be made from berries, cherries, figs, apricots, peaches, and blue plums. Over-ripe peaches and apricots are best for leather and all fruits should be thoroly ripe. Mash to a pulp, spread on lightly oiled platters and dry in the sun or the dryer. When dry, sprinkle with sugar, roll up like a jelly roll, cut in slices, sprinkle with sugar and pack away in jars or very tight boxes lined with wax paper.

Peaches or half-and-half peaches and figs make delicious leather and need only a sprinkling of sugar.

Serve this leather in winter instead of candy or with cream cheese and nuts for dessert. Fruit leather may be soaked in water and used for pies, shortcake, puddings and sauces. When intended for this purpose omit the sugar.

Fruit pastes are made by boiling down fruit pulp, adding sugar and drying out slightly. Practically all fruits can be used in making this paste. Mixing the fruits improves the flavor.

A Shelf Full of Relishes

Home-made sauces from home-grown fruits and vegetables are first aids in serving cold meats or stretching the roasts. Every well-stored pantry should have its shelf of relishes: chutney to serve with chicken, corn relish with fish, cucumber catsup with steak, spiced grapes or currants with cold meats.

Apple Catsup

1 quart apple sauce
1 teaspoon ginger
1 teaspoon cinnamon
1 teaspoon cloves
1 teaspoon pepper
1 teaspoon mustard
1 teaspoon onion extract
2 teaspoons salt
1 pint vinegar

Simmer slowly until thick, bottle and seal. A similar catsup can be made from plums or grapes and spiced to taste. Sorghum or molasses may be added if a sweet sauce is liked.

Cucumber Catsup

1 dozen large cucumbers
1 quart vinegar
1 tablespoon salt
¼ teaspoon cayenne

Gather cucumbers before sun strikes them and keep in a cool place until used. Peel and grate the cucumbers and drain off the water. Heat vinegar and spices to boiling point; pour at once over the grated cucumber, bottle and seal. Cucumbers bottled in this way retain their freshness and make a particularly good sauce for steak.

Spiced Currants

5 quarts currants
1 pint vinegar
1½ pounds sugar
1½ pounds corn syrup
1 teaspoon cloves
1 teaspoon cinnamon
1 teaspoon allspice

Combine ingredients and cook one hour. Seal in jars.

Indian Chutney

2 dozen ripe tomatoes, medium size, chopped
6 onions, medium, chopped
3 red peppers, chopped
3 green peppers, chopped
1 dozen tart apples, chopped
1 pound seedless raisins
1 cup celery, cut fine
2 quarts vinegar
1½ cups sugar
1½ cups corn syrup
Salt

Combine the ingredients and cook until all are soft and the chutney is thick. Pour into hot sterile jars and seal them.

Corn Relish

5 pints sweet corn cut from cob
3 green sweet peppers
2 red sweet peppers
4 pints vinegar
4 pints finely chopped cabbage
½ pound sugar
½ pound corn syrup
¼ pound mustard
2 tablespoons salt

Seed and chop peppers. Mix all ingredients together and cook until corn is soft, about twenty-five minutes. Seal air-tight in hot, clean jar. Serve with fish.

Potted Liver

Wash and cut up two pounds of beef liver. Cover with cold water, let come to a boil and simmer until tender. Press thru a potato-ricer; add one-half cupful of butter, one-half teaspoonful of salt and a dash of pepper. Beat the above mixture to a smooth paste. Mince a good-sized onion and a few sprigs of parsley and stir into the mashed liver. Put in jars in a cold place and it will keep for some time.

Pork Loaf

1 pound chopped ham
1 pound chopped fresh pork
3 tablespoons chopped onion
1 tablespoon salt
1 teaspoon pepper
1½ teaspoons curry powder
1 tablespoon sage
1 egg
¼ cup cream

Chop meat and onion and mix together. Add egg and cream. Shape into loaf and tie in cheesecloth. Simmer 2½ hours in 3 quarts of boiling water to which 1 teaspoon salt and 4 tablespoons vinegar have been added. Drain, press and cool.

British Sugar Allowance

The Royal Commission on the Sugar Supply in Great Britain has reduced the allowance of sugar for domestic preserving from ten pounds, the contemplated amount, to six pounds for every person in the household of the applicant. Jam and preserves occupy a very important place in the daily food of the British people. The reduction in the sugar allowance was necessary partly because of the unusual number of applications, but chiefly because of a shorter supply than was anticipated. Manufacturers of lesser essential food products have been restricted to 25 per cent of the sugar used in 1915. These facts show the extreme shortage in Great Britain and the necessity for conservation in this country in order that sugar may be shared with the Allies with reasonable equality.

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PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2533—Pretty Party Dress. Dotted swiss, dimity or organdy could be used for this dainty garment. It also is nice for batiste, lawn, voile, silk and crepe. Lace embroidery or feather stitching will form a suitable trimming. Cut in sizes 4, 6, 8, 10 and 12 years. Size 10 will require 3⅝ yards of 44-inch material.

2535—Very Attractive Style. Smart collar trimming, under which the fronts are closed. The front of the skirt is laid in a plait at each side seam. At the back and sides, the skirt is gathered. The style is good for organdy, voile, gabardine, linen, batiste, albatross, foulard and satin. Cut in sizes 12, 14 and 16 years. Size 14 requires 4½ yards of 44-inch material.

2536—Smart House Dress. Seersucker, percale, lawn, gingham, chambray, linen, drill and khaki could be used for this model The closing is at the side, where the right front overlaps the left. The skirt is a three-piece model, trimmed with comfortable pockets. Sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 6¾ yards of 36-inch material. The skirt measures about 2¼ yards at the foot.

2526—Neat Apron Dress. Striped percale with trimming of white linene, is here shown. This style is also nice for gingham, jean, chambray, lawn, sateen, or alpaca. It is cut in kimono style, and low at the throat, where it may be finished with or without a collar, in sailor style. Generous pockets are added to the front, and the short, loose sleeve is comfortable. The fulness at the waist may be free, or held in place by a belt. Sizes, small 32-34; medium, 36-38; large 40-42; extra large, 44-46 inches bust measure. It requires 4⅞ yards of 36-inch material for a medium size.

Keeping a Small Flock of Sheep on the Farm

(Continued from Page 6)

Many readers of Western Farm Life have heard of the Shropshire flock on the famous Lakeside Hereford ranch owned by John E. Painter and Sons at Roggen. Not many cattlemen like the Painters would bother with sheep, but on this farm they are considered of great value. They are kept entirely for home meat production, have raised a 100 per cent lamb crop for several years, and shear over eight pounds of wool per head. Mr. Painter states they live largely on sweet clover, and stay fat practically all the year round.

Mutton breeds like the Shropshire, Hampshire, or Southdown, are best for small farm flocks, but it is not necessary to start with any other foundation than the western range ewe. Thousands of good sound ewes have to be turned off the range every fall, and are hardy, healthy, and comparatively cheap. By using a good mutton buck on these ewes an excellent type of farm sheep is produced. Any of the good mutton breeds will do, but the Shropshire is probably the favorite. Hampshires and Oxfords are good, but a little on the rangy order, while the Southdown is rather hard to obtain. There is no reason why purebreds should not be raised if one has had some experience with sheep. The small farm flock will not be able to supply rams in quantities for the range, but will be able to fill local demands until a larger flock with a reputation could be built up.

What sheep can do in the west on small irrigated farms has been demonstrated by the Bureau of Plant Industry on the Minidoka irrgation project near Pocatello, Idaho. Sheep were introduced there in order to dispose of the alfalfa and grain produced. The flocks on these farms average from fifty to seventy ewes. Special pasture grass mixtures have been used that will carry ten ewes and their lambs per acre for the entire season. A similar pasture grass mixture for Colorado may be obtained from the Colorado Experiment Station. The sheep clean off ditch banks and fence rows after harvest, pick up the waste hay in the hay fields, glean the stubble fields, and dispose of the beet tops, performing a valuable service at the same time that they are producing mutton and wool. They do not require extra feed till after snow comes in December, and rarely require anything but hay, tho some feed roots and grain, or unthrashed sheaf oats. Open sheds and windbreaks are provided, with some closed sheds for early lambing. The farmers on the Minidoka project have proved to their own satisfaction that they can make sheep profitable on their irrigated farms.

Do not get the impression so often encouraged by the press and believed in by amateurs to their sorrow that sheep can be kept entirely on weeds and rubbish without care, housing, extra feed or medical attention, and that they produce two lambs apiece and a fleece of wool with unfailing regularity without any expenditure of time or money on the part of the owner. It does not work that way. The sheep has been under the care of man for thousands of years and needs care and attention as much as any farm animal with the exception of the dairy cow. Sheep pay for extra feed, care and attention, and do not pay unless they receive these. Sheep on the farm should be more like friends of the family. Children can look after them more easily than other farm stock and can be taught a liking for animals in this way. Sheep should have a dry shed to lie under in winter, and if there is danger from dogs should be inside a dog proof fence at night. The cur dog has been the greatest menace to the farm sheep industry, and we hope will soon be legislated out of existence.

Space does not permit of detailed information on the care and management of sheep, but questions from subscribers will be promptly answered by letter and thru the columns of the magazine. Several very good bulletins are published by the Department of Agriculture at Washington. Farmers' Bulletin No. 840, Farm and Sheep Raising for Beginners, and No. 810, Equipment for Farm Sheep Raising, are two of immediate interest. The Department of Agriculture Bulletin No. 20, price 10 cents, and Bulletin No. 573, The Sheep Industry on the Minidoka Irrigation Project, price 5 cents, are also valuable.

In support of the nation-wide effort to prevent waste of food, Frank Svoboda, a Bohemian farmer living in Oklahoma, urges cloth or canvas linings for wagon boxes during threshing and grain handling seasons. "From twenty-five to fifty bushels of wheat could be saved daily on the average farm at the time of threshing," Mr. Svoboda believes, "if such lining were used in the bottom of every wagon to geep grain from sifting thru the openings. Few farm wagons used for hauling bundles are grain-tight. Canvas cloth should also be used at the threshing machine where the bundles are unloaded. Especially when the season is dry and kernels of wheat drop from the stalk upon mere touching, large quantities of grain are lost in hauling wheat from the field to the machine and during threshing operations."

Owing to lack of markets for their corn, farmers in Argentina, South America, are in some cases disposing of it for fuel at 40 cents per bushel.

"Maximum canning with minimum sugar"—the summer slogan.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Problem Not Yet Solved

We are in receipt of several more letters anent the now famous foot and face disease in chickens. We are taking this means of replying to these letters, as the writers are all readers of Western Farm Life. It is gratifying to see such interest shown in the matter and to know that many others are trying to solve this very big problem. We have no answer to make those who believe they have discovered the cause and cure, not yet being persuaded that either has been found. Were the writers united in their opinions it might be an easy matter to prove the case, but when every letter contains a new theory, we confess that we are more puzzled than ever.

The State Experiment Station is working on the matter and we are planning, with the co-operation of our readers, to do some experimental work on this disease next spring. Those who have had experience with the disease in their flocks can be of help. Hold yourselves in readiness and just before hatching time next spring we will let you know how you can help solve the problem. This disease is too destructive to let it go on without a solution, and with all of us working on it we can find the remedy. Following are two recent letters from farm poultry raisers relating their experiences and conclusions:

I have been reading in Western Farm Life comments on the chicken disease; indeed it is mysterious. I believe I have had more experience with the disease than those that have written for advice. I have had to fight it for four years, and I have tried all ways and remedies and will say prairie sod has nothing whatever to do with it. But will say from experience that where chickens have had it and recovered, if they are kept over, the offspring from their eggs will have the disease in a few days after hatching. They inherit the disease either from the hens or rooster.

The first year it broke out in my flock, out of 225 chicks I had five recover. I brought those home, as I had put all that were sick in an old building away from the rest, and the following spring from the eggs laid and set from those hens the chicks had the disease in three days' time. To assure myself that it was inherited, I kept a rooster that had the disease, and I could pick out his offspring and they nearly all took the disease either right away or when they were two-thirds grown. It was an expensive experience for me, but I could get no cure, and I tried everything that was spoken of. So now as soon as I see any sign I kill the fowl and burn it. We plowed up the ground around and we made all new coops and I am getting it pretty well under control, but I advise all those bothered with the trouble to kill all the birds with the trouble and do not keep them over for another season. I had a pan that I had in a pen where I had some sick ones. The following year I let one hen and some chicks drink water from the pan and in a few days they were blind.—Mrs. A. W., Kiowa County, Colo.

I see in my paper where they are writing about the chick disease foot and mouth trouble. I have had some experience myself and I found out it is the hot ground that causes it. Now, my buildings are out in the field where every foot of ground has been plowed and cultivated. The ground gets so hot here I think that is the cause of it. I try to set all the hens early in April so they are pretty well grown by the time the hot weather comes, and I don't have any more trouble. I think if we had plenty of shade trees around where the little chicks are kept that would be a good cure now. Late hatching does well, too, because the ground gets cooler towards fall.—F. L., Washington County, Colo.

Probably Mites or Lice

I would like to know what caused the death of two of my turkey hens. About a week after they have hatched they get weak in the legs and seem to be unable to bear their weight. Their wings droop, they are hardly able to walk, and when they do try it their feet are so far apart they can hardly stand up. They eat or drink nothing and in two or three days die. It doesn't seem to be contagious, as the small ones don't get it, but I have had two hens die with it and they did not come near each other at all.—Mrs. F. B., Morgan county.

It is impossible to diagnose the case by your description of the trouble. Right off the bat we should say that the turkeys were infected with lice, or that in their nests were mites which get on their bodies at night, thus weakening them to the point of exhaustion. We have had hens die on the nest and have known them to leave the nest sick, finally die, just because of the blood-sucking mites which lodge in the nest. It is of course possible that some disease which is not apparent on the surface was at work on these turkey hens, but we have no way of knowing this without a post mortem examination. In every case of weakness or lassitude in fowls, we have suspected lice or mites, and nine cases out of ten prove the guess to be right. If the trouble has not spread nothing more can be done at present, but we would suggest that every setting fowl, whether hen, turkey or duck, be thoroly treated for lice and that nests and roosting places be thoroly disinfected for mites.

I am writing for information about my turkeys. They have some kind of a disease and I am not real sure whether it is roup or some other disease. When they start with the disease their heads seem to be stopped up, and a watery substance comes from the openings in their bills. They eat all of the time. They do not seem to be droopy. After they are sick for three weeks or more a swelling starts between the bill and the eyes swell shut. When I open this swelling there is a watery substance comes from them and sometimes pus. They have had this disease for about two months, some of them have died; they die suddenly or will eat until the last unless their eyes are swollen and then I have to feed them. They seem to be blind. I have a smaller bunch. They are affected also, but are just starting with the trouble. It does not seem to affect the chickens. They run in the same place with the turkeys. I have been treating them with a roup remedy, but it does not seem to help any. They run in an orchard. It is quite shady and sometimes we irrigate the orchard.—Mrs. F. S. M, New Mexico.

Undoubtedly your turkeys have roup, and the sick ones should be immediately isolated as the disease is contagious. With a sharp knife cut open the swelling beneath the eyes and thoroly disinfect with a weak solution of carbolic acid or a solution of some of the coal tar products. In all cases of sickness in the fowl, the first thing to look for is lice on the body of the fowls. Treat with some good lice powder and repeat the dose in a few days. All sick fowls should be kept in a clean, well ventilated coop or pen and the pen should be thoroly disinfected and made free of mites. Very young turkeys should be kept in on wet mornings, and especially as the mornings become cooler, and should not be allowed to run until the sun has taken the moisture from the grass and has warmed things up. Comfortable quarters should be provided at night, and if the young turkeys are still confined at night to small coops, these coops should be thoroly disinfected and more room be given if necessary. Crowding on warm nights and running on wet grass in the morning is likely to aggravate any case of cold which fowls may have acquired. Any of the common disinfectants in the drinking water, preferably copperas or permanganate of potassium, will help to keep the disease from spreading; internal remedies apparently do little good in cases of this kind, but when sick ones are isolated they should be fed lightly of mash, rather than of grain, for a few days. Provide all the green stuff that they wish, but do not over feed grain for some days after separating them from the well ones. To sum up: a clean, well ventilated coop, bodies rid of lice, light feeding, disinfecting the nostrils and throats and any swollen place that has been cut open, is about all that can be done for fowls in this condition. Very bad cases, of course, should be killed and buried, but by all means, sick fowls should not be allowed to run in the flock.

Why the cost of producing cattle does not determine their selling price

To produce a steer for meat purposes requires, as you know, a period of from one to three years.

The prices the producer has to pay for feed, labor and other items during this period, together with weather conditions, determine what it costs to produce the steer.

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The rise and fall of prices results from an economic law that operates in every business. It is the packer's task to turn live stock into dressed meat and by-products, and distribute them to the consumer under control of this law.

Market conditions and competition establish the prices the producer gets for his cattle. When meat prices go up or down, so do cattle prices.

The packer can't pay out more money for animals than he takes in from the sale of meat and by-products.

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WANT TO HEAR FROM OWNER OF FARM OR fruit ranch for sale. O. O. Mattson, St. Paul, Minn.

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REGISTERED DUROCS—I HAVE A FINE LOT of boars and gilts about two months old. They are all sired by my Pathfinder boar and from my best sows. $15, including registration papers and crating. A few registered Tamworths; they are a little older and will cost a little more money, but they are just as fine as grow; also a two-year-old Percheron stallion that is right in every point. Price, $300. Dr. Frederick W. Culver, Longmont, Colo.

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FOR SALE—WELL DRILLING RIG, EQUIPPED with gas engine, 350 feet capacity, good order. For particulars address P. S. Hodgkins, 3905 Quitman St., Denver, Colo.

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OPERATIVES WANTED; EXPERIENCE UNnecessary. We instruct you. Travel. Make secret investigations. Salaries, expenses. Hartley Detective Agency, St. Joseph, Mo.

WANTED—HERDSMAN FOR HERD OF TWENty registered Holstein cows on fully and modernly equipped dairy ranch. Will provide attractive four-room cottage for married man ready to work and looking for a good home. Write, giving experience and recommendations. Garmesa Farms, Fruita, Colo.

Colorado Fair Dates

Colorado State Fair, Pueblo, Sept. 23 to 28.

Boulder County Fair, Longmont, Sept. 3, 4, 5 and 6.

Arkansas Valley Fair, Rocky Ford, Sept. 3, 4, 5 and 6.

Adams County Community fairs, West Point school house, Sept. 10; Antelope Flat Grange hall, Sept. 11; Central Valley Grange hall, Sept. 12.

Adams County Fair, Brighton, Sept. 17, 18 and 19.

Logan County Fair, Sterling, Sept. 10, 11, 12 and 13.

Weld County Fair and Tractor Show, Greeley, Sept. 18, 19 and 20.

Penrose Community Fair, Fremont county, Sept. 19.

Huerfano County Harvest Festival, Walsenburg, Sept. 18, 19, 20, with sale of purebred cattle on closing day.

Routt County Fair, Hayden, Sept. 25, 26 and 27.

Douglas County Fair, Castle Rock, Oct. 8, 9, 10. The closing day will be a farm sale day.

Wilson Community Fair (Las Animas county), Sept. 25, 26 and 27.

Lincoln County Fair, Hugo, Sept. 26, 27 and 28.

Western Slope Fair, Montrose, Sept. 18, 19, 20 and 21.

Losses from Smut

Last week Dr. Arthur T. Evans, from the U. S. Department of Agriculture, made a trip with the county agent over a section of the country investigating smut conditions. In one field a count showed that 25 per cent of the wheat heads were smutted. An estimation of the probable yield of this field (about 35 bushels) showed that if the wheat had been carefully treated about 12 bushels more would have been secured. At present price this means a loss of about $15 an acre, or $450 on the 30-acre field. Other fields visited showed smut to the extent of from 5 to 20 per cent. No farmer can afford to plant grain without treating. —Boulder County Farmers' Exchange Bulletin.

Dehydration Promoters

Promoters have bobbed up in various sections of the state with propositions to interest town and country people in the establishment of dehydration plants. In nine cases out of ten these promoters have no other motive than to sell high-priced machinery at a big profit. They are seeking to unload dehydration plants on communities that do not produce enough fruits and vegetables to supply home demands and where there is absolutely no commercial reason for establishing plants of this kind. Farmers and others who are being approached with propositions for investment are urged to communicate at once with the Colorado Council of Defense, to ascertain whether parties promoting such propositions are responsible.

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Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the other day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, better get a Majesty bull calf while the getting is good. I have them. Also a few fall boars, splendid good ones, at right prices. I will have something still more interesting to tell you very soon about Majesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

Sudan Grass Hail Resister

For some years the seed houses have proclaimed Sudan grass as a drouth resister. I want to add my testimony for it as a hail resister. The morning of July 23d I was in my field; the grass stood 30 inches high beginning to head. I figured it was very promising for a seed crop. At 5 p. m. on July 24th we had a terrific hail storm and the next morning I went to the field. There was not a stalk standing; it was just level to the top of the ground. On August 13th I again visited this field and the Sudan grass stands from 24 to 30 inches in height. Will make a good hay crop, too late to ripen seed in this locality, I fear. Cane also hailed out. Don't stand over 10 or 12 inches at present time. Don't fail to plan in sowing some Sudan grass seed about the 10th of June next year. It's the very best hay for non-irrigated districts.—G. W. Dickey, Logan County, Colo.

Wheat on Summer Fallow

I read your article in the last issue regarding the farm operations of a lady in Arapahoe county; I have forgotten her name, but I have not forgotten what you wrote about summer tilling. All others I think in the state ought to follow the same method. The best crops of wheat that I have seen this year on dry land were on summer tillage. A man at Sterling told me that he could hardly make a living for the first five years that he practiced dry farming in Logan county. His practice was to crop the same land annually, and he made no progress financially. Finally he commenced summer tilling and he told me that he had not failed to get a paying crop on his farm since.—R. W. Clark, Extension Department, Colorado Agricultural College.

Deep Fall Plowing

Following is from the report of County Agent C. E. Smith of Las Animas county:

"A demonstration of deep and shallow tillage side by side was visited the past week. The deep tillage was performed in the fall and the shallow tillage in the spring. Corn was planted same day across both portions. The result is at present a splendid stand of corn that stands even thruout the field of the deep tilled fall plowed soil, while there is a very poor stand of indifferent sort of stuff on the shallow plowed spring tilled land. The difference is extremely noticeable. One would think that half or two-thirds of the seeds had been dug up.

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Handling the Wheat Crop

After a thoro investigation of the farmer's problem in handling his wheat crop this year, J. M. Collins, chairman of a special committee of the State Council of Defense appointed by Governor Julius C. Gunter, has reported that there are no suggestions or recommendations which can be made to aid the farmers. The committee was appointed for the purpose of finding out whether any suggestion could be made to national officials to help the farmers move their crops or store them when the bumper wheat yield is harvested. The committee found that all that can be done is being done by federal and state officials.

The Winchester pattern. 320 pellets out of a possible 431, or 74% of the shot charge, evenly distributed, no birds get through

A quick eye and a good shot pattern

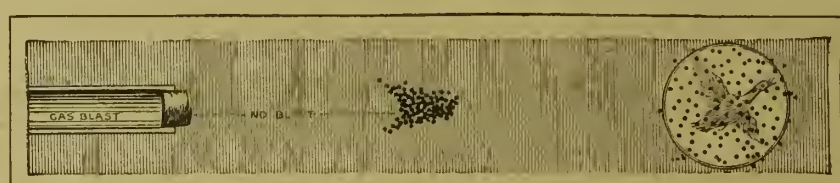
A QUICK eye and a good shot pattern, that's the game-getting combination. Given an old-timer with a reliable gun in his hand and the rest of the story is up to the shot pattern.

Now the secret of good patterns is in the control of the gas blast from the exploding powder. This in turn depends upon the *wadding* in the shell.

The wadding, like the piston head of a gas engine, must give the explosion something solid to work against so that the shot may be *pushed* out evenly.

It must expand and fill the tube of the barrel, completely sealing in the gas behind it. No gas must escape to scatter the shot.

It must offer just the right amount of resistance to the explosion so as to develop uniform pressure and high velocity without danger of jamming the pellets out of shape at the "choke" or muzzle constriction.



The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where it is checked by the "choke" or constriction. The shot cluster travels on ahead unbroken. Actual test target 320 pellets out of 431, or 74% of the shot charge (1¼ oz. of 7½ chilled) inside a 30-inch circle at 40 yds.

The Winchester System

Winchester Wadding is the result of repeated experiments to determine the most efficient control of the gas blast.

The special construction of the *Base Wad* gives what is known as *Progressive Combustion* to the powder charge.

Combustion spreads instantly through the powder charge. By the time the top grains of powder become ignited the *full* energy of the burning powder behind is at work. Though the explosion is almost instantaneous, it is none the less *progressive*, the final energy and maximum *velocity* of the completely burned powder being developed at the *muzzle* where it is most needed.

Meanwhile, under the heat and pressure of combustion, the tough, springy *Driving Wad* has expanded to fill the barrel snugly all around. No gas escapes. It is completely sealed in. The wadding *pushes* the shot evenly.

At the muzzle, the shot pellets slip out without jamming, while the wadding is checked for a brief interval by the constriction of the muzzle. *It follows some distance behind the shot pattern.*

The shot cluster travels on unbroken by gas blast or wadding and makes the hard-hitting, uniform pattern for which Winchester shot shells are world famous.

Fish Tail Flash. All Winchester smokeless shells are made with the new Winchester Primer—the quickest and most powerful shot shell primer made. Its broad *fish tail* flash gives even and thorough ignition. Every grain of powder is completely burned up before the shot charge leaves the muzzle.

The Crimp. The required degree of pressure necessary in seating the driving wads is worked out in combination with the *hardness* or the *softness* of the *crimping* required for any particular shell.

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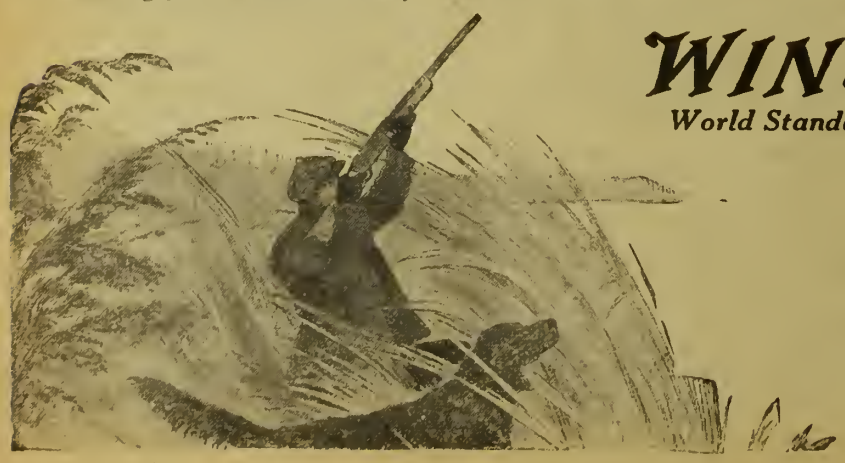

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WESTERN FarmLife

Vol. XX Denver, Colorado September 15, 1918 Semi-Monthly

Lower View: Farm Buildings on the Elliott Ranch, Wolfe Creek, Colo. Upper View: Pinto Bean Field on Same Ranch That Will Make About 800 Pounds to the Acre. All Crops Are Grown Without Irrigation. See Article Page 8

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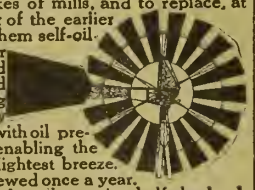

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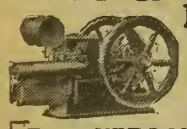

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The Right Time to Cut Alfalfa

E. R. PARSONS

The farmer's viewpoint on this question is not always that of the professor. I have been raising alfalfa for 30 years and am still doing so. In Colorado I believe the main thing is to get it in out of the rain, and not worry about ½ of 1 per cent more or less of the nitrogen content, for neither the animals nor the farmer can tell the difference. What counts most on the farm is condition and digestibility. Stock will never get fat on feed which they do not relish. One of our summer thunder showers of an inch or more rain on alfalfa when it is down, often followed by another just as it is becoming dry enough to haul, may cut the value of the hay some 10 to 25 per cent.

Damage of this kind is often avoided on the first cutting by starting mowing a little early before the summer storm weather becomes fully developed. The second cutting has to dodge cloudbursts almost invariably. It is mostly a case of guessing; but the idea is to catch the pause between the stormy spells which the weather bureau can often forecast correctly. A stormy condition often exists for about two weeks at a time, during which period there may be no general storm, but the showers strike in different spots, some of which are more favored than others. This may be followed by two weeks of fair weather with higher barometer; but sometimes the unsettled spell of weather may last a whole month, and the farmer is lucky if his hay is still in fair condition when he gets a chance to cut it. The third cutting can usually be made in fair weather, and is often the lightest of the season; but here the inclination to hold too long for the sake of the protein content may lead to disaster, for nothing could be worse at this juncture than a good frost which makes it dangerous to feed in quantity even after curing. On the ranch we always considered alfalfa cut before blooming fine for calves. When cut in the first bloom the best for cows, and when cut in full bloom or later all right for horses with good teeth; but it should not be fed to old horses with poor teeth or animals which bolt their food, on account of the dangers of impaction.

As far as sprouts are concerned, my mower never cut any, altho I have often waited two weeks for the weather. They slide under the guards as anything will which is not well above the mower blades; but some years ago I made a point of cutting some of them off with the scythe and the result was simply more stems, but less coarse, and if it were done to a whole field it would probably put the crop back a week or even two. In judging the quality of alfalfa hay out of a hundred points I would allow for lightness, palatability and digestibility 95, for the extra amount of protein sometimes to be gained by waiting a week or so, 5 points.

Study Soils at State Fair

The Bureau of Soils of the United States Department of Agriculture is sending with the combined government exhibits, to be at the Colorado State Fair at Pueblo September 23 to 28, twenty or more samples of soils important in crop production, and of transcendant importance now, when big food crops in this country may prove to be the final feather that will break the back of the Hun. Two or three types of local interest will be shown, and if practicable a soil type common in the vicinity of the fair grounds will be exhibited.

Soil maps on the scale of an inch to the mile, lithographed in colors, showing the relation and distribution of soils, and especially how one belt of rock or geological horizon produces one soil, and another condition gives rise to another soil, will be displayed.

Other exhibits will include photographs illustrating the mechaniial analysis of soil, and samples of soil particles after analysis; photographs showing the construction of a soil map, and a selected number of completed soil survey reports and maps of local interest.

One of the boys, writing home from France says, good milk can be purchased at five cents a quart. He also informs us that the country looks much like our mountains without the high mountains and streams. He thinks the country beautiful, but says he would not like to live there because everything is so far "behind the times;" giving as an instance the fact that hay is cut with scythes.

The LAUSON 15-25

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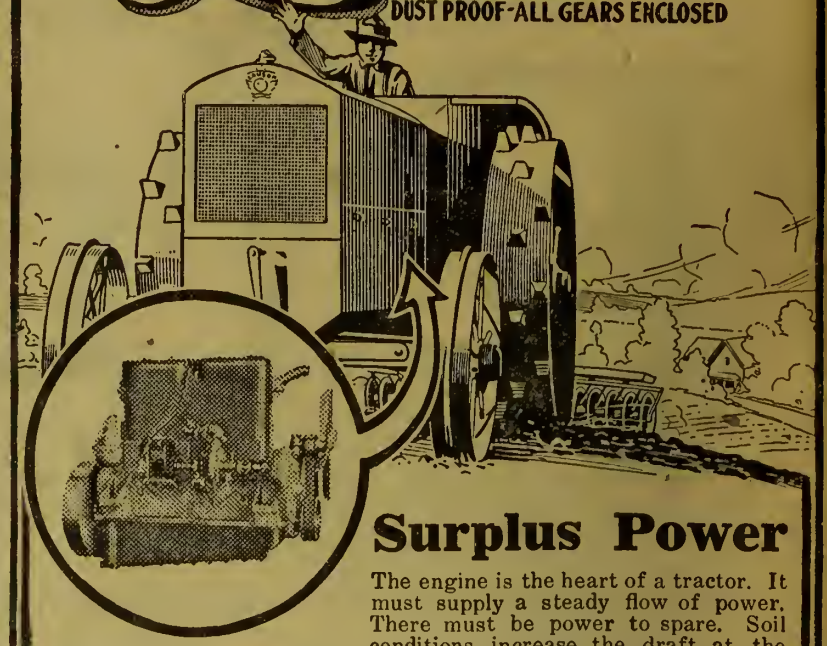

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The LAUSON-BEAVER-valve-in-head motor has 30% surplus power. The valve-in-head principle is noted for its efficiency under heavy load. It burns kerosene successfully. It is dust-proof but accessible. The bore is 4½" and the stroke 6".

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A Western Magazine for Western Farmers and Stockmen

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Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, SEPTEMBER 15, 1918 | Number 18

Windbreaks the Final Solution of Soil Blowing

USE OF THE LISTER WHILE THE TREES ARE GROWING

E. R. PARSONS

IN CERTAIN districts many of our new settlers, after taking up their homesteads, find themselves up against the wind problem. This is a serious matter for them, and naturally they want to know what to do about it. The trouble is confined almost entirely to light or sandy soils which blow easily, and is a condition found here and there all thru the plains region of the dry farming country. If we go back East a hundred miles or so into southern Kansas or even some parts of Nebraska, we find the only permanent solution—every field surrounded with windbreaks.

Dry farmers have always hesitated to plant trees. The idea prevails that altho ordinary crops may be raised by the right methods, trees are altogether in a different class. The fact of the matter is that the latter, owing to their deep rooting proclivities, are much the easier to raise, are more easily cultivated, and if properly spaced, always have the requisite moisture. In land which has been summer or winter fallowed there is usually two or three feet of moist soil by tree planting time averaging some 15 to 20 per cent of water. This will carry any newly planted tree the season thru without any rain, provided the surface is kept properly cultivated. A 14-inch precipitation on a space 40x40 feet figures out more than 60 tons per annum; on a space 20x20, 15 tons, and so on. The only reasonable method, therefore, of planting trees is to discover about what water they require and space them accordingly. A deciduous tree suitable for windbreaks from 10 to 20 feet high would use up from a ton to two tons a month during the four or five months of the growing season, but could live even on less.

As the tree grows larger and requires more water, if the demand is not met it does not die. It adapts itself to the emergency by putting forth smaller leaves and ceasing to grow. The writer has raised thousands of trees but has never yet had one die from drouth. The usual cause of mortality in newly planted trees is exposure of the roots either after being dug in the nursery, or in transit.

Trees should be packed whole in paper lined boxes with moss or excelsior to prevent evaporation for any trip of more than two days duration and on arrival at their destination should be covered, branches and all, for a few days, with damp earth to allow them to plump up and recuperate. (This does not apply to evergreens.) As regards windbreak trees, the cessation of growth for want of more room is of no particular importance, once the desired size has been attained, but in the orchard this condition would mean small and unmarketable fruit; therefore, it is always best to space it liberally.

Apples on 40x40 feet will do well as far as moisture is concerned for 20 years, cherries and plums should have 20x20 and small fruits 10. When trees become too large for their spacing, the sign of which is small leaves and fruit, the remedy is to dig out every other tree, or else to keep them down by severe pruning.

Drouth the Least Trouble

In raising windbreaks on the dry farm the least of our troubles is drouth. The main thing is to obtain reliable information as to varieties which will not winter kill. This can usually be obtained for any particular section from the U. S. Forestry Department, the experiment stations, the colleges, the state forester or the county agent. The elm, ash, locust, black walnut, silver poplar, Russian olive and even box elder, have all been raised without irrigation; but the line must be drawn at bottom trees, the roots of which are usually found above a water table, such as the cottonwood, willow, and the maples. On the writer's ranch he used the black locust, honey locust and also a row of silver poplars to protect the house. The altitude was close to 6,000 feet. One or two of the black locusts died down the third or fourth year, but came up again from the root, thicker than ever. The same characteristic was noted of the silver poplar. The honey locust made a beautiful hedge about 12 feet high and they all lived. The Russian olive is doing well on several Colorado ranches. Many of these trees may be seen in the city parks of Denver where they get very little in the way of irrigation, and it is found that their requirements in this direction are very light.

The best and most permanent windbreak is made from evergreens, and we believe the best tree for this purpose is the Douglas fir, commonly known as the red spruce. It is a native of Colorado and other Rocky Mountain states, is found in gardens and parks all over the world, does not winterkill below timberline, and is to be seen growing wild in many places where the precipitation is only 14 inches. The evergreen makes the best windbreak because it never drops all its leaves—it is on the job winter and summer, and so thoroly backsets the wind that it raises big snow drifts all around it which add materially to its moisture reserve. The Douglas fir, however, cannot be very well raised in adobe; it prefers sandy loam and gravel and will sometimes grow two feet in a season, but is considered to be of slower growth than deciduous trees. There are some beautiful plantations of these trees in Dakota and Nebraska.

They can be dug in the hills and planted in the spring, but the work must be done in a certain manner or root killing may result. The tree which should not be over two feet high, must be lifted with as much dirt as possible so as not to loosen the main roots and let the air in. A trench is dug around it, the tree lifted with a ball of earth, and a piece of burlap slipped underneath it and tied together as solidly as possible. On reaching its destination it may be planted in this condition; but as the dirt is filled in around the ball the strings may be cut and the roots will soon work their way thru the burlap which eventually rots.

Yellow Pine and Juniper

An easier way is to obtain the Douglas fir at a nursery already balled or planted in pots. All evergreens should be shaded the first year if possible. The yellow pine and the juniper are also practically drouth proof under cultivation and the lovely silver spruce, which needs somewhat more moisture, can be raised by dry land methods very easily on a 14-inch precipitation. If the farmer is anxious for quicker results than can be obtained from evergreens alone, we would recommend a two or three rowed windbreak, planting one of them to deciduous trees. In planting windbreaks the rows should be parallel, but the trees in the second row must be planted so as to block the spaces where the wind blows thru the first row.

On the dry farm the trees will do better if planted ten feet apart than if allowed only six or seven, and the intervening spaces will soon fill up with branches. Twenty feet at least should be allowed between rows and enough cultivation given to keep the weeds out. Some successful windbreaks have been made by planting them in a hollow with the slant towards the row. It is always an advantage to young trees to dead furrow the rows, so that whatever drainage there may be will be towards them rather than away from them. If there is much slope the hollow terrace method should be applied, which is accomplished by holiowing out the center space between rows with the disk, in order to catch and hold any run off from the hill.

Use of the Lister

While his windbreaks are growing there are many remedial measures that the farmer may take to mitigate damage by blowing. Perhaps his most useful implement in this work is the lister. Deep rough plowing across the path of the wind seldom blows, but listing is satisfactory in the worst districts. The procedure is to list the land as if planting corn, without any seed, of course, leaving every alternate furrow unplowed. The high middles break the force of the wind and in stormy weather the snow drops into the deep furrows between, providing moisture for the crops the following season. The land may be prepared in this manner either for corn or late crops or for spring grain. If for corn, all the farmer has to do is to take the lister in May—this time loaded with seed corn, and list the middles, planting corn and plowing up the unplowed centers at one and the same time. A good harrowing levels the field and finishes the job, but where there is no danger of spring freshets washing out the lister furrows the finishing work is often done with the cultivator later on. For grain the middles may be dug out in the same way, but some leave them, since grain will flourish on harder land than corn, but the fall following they should be listed, leaving the old furrows for middles. The field has to be thoroly leveled with the harrow or some kind of a drag before planting small grain.

In districts where the wind problem is not of first importance the heaviest corn yields have always been obtained by deep fall plowing and listing the corn in the spring across the plowing. This method will usually double the yield of the old style way of listing the corn in unplowed land at planting time and then tilling the hard interspaces or middles with the cultivator after the corn is up.

One of the worst effects of blowing in the sandy loam regions is the cutting

(Turn to Page 14)

A RANCH HOME IN THE MOUNTAINS

Nature Provides a Windbreak of Enormous Rock Masses, from the Crevices of which Grow Pines and Spruces. View Shows Dwelling on the Weaver Ranch, Virginia Dale, Colo. Ranch is Operated by George Degney and Comprises 800 Acres, Sloping Toward the East from the Ranch House, Which is Placed amid Majestic Surroundings at the Head of the Valley.

Sugar Beet Pulp the Best Beef and Money Maker

RESULTS OF THREE YEARS' FEEDING TESTS AT COLORADO STATION

T. E. LEIPER

JULY 12, 1918, marked the close of a three-year experiment on six rations for fattening cattle under Colorado conditions. This experiment was planned by Professor G. E. Morton in 1914 and was brought to a successful conclusion under his supervision. It was designed to solve following problems:

1. The feeding value of sugar beet pulp compared with corn silage.
2. The relative desirability of adding cottonseed cake or barley to a molasses, corn silage, alfalfa ration.
3. The feeding value of sugar beet molasses compared with barley.
4. The value of corn silage when added to a barley, alfalfa ration.
5. The comparative feeding value of corn versus barley.

This last group of experimental cattle were Moffat county grade yearling Hereford steers, bought at the auction sale of the Western Livestock Show, January 25, 1918, at $10.55 for top and $10.50 for the second car. They proved to be very good feeders and were exceptionally uniform.

Upon arrival at the experiment station feed lots they were dipped and divided into six groups of nine each and fed alfalfa until March 6th, when they were placed on experiment proper.

When these steers were marketed in Denver they were divided into the six respective lots and judged by nine of the prominent buyers of the stockyards. All nine of these buyers placed the pulp lot first and the silage, molasses, barley, alfalfa lot last. Lots six and four tied for second place, but Mr. H. F. Blayney of the Coffin Packing & Provision company, who bought these cattle, had placed lot six second; lot four was placed third. Lot five was placed fourth and lot two fifth, being readily agreed upon by the judges.

Pulp Versus Corn Silage

For the third time pulp proved to be the best beef and money-maker of all six groups. The following table will readily show the difference between pulp and corn silage:

	Feed	Year 1916-17	Year 1917-18
Gain per head per day	Pulp	1.86	2.33
	Silage	1.68	1.93
Per cent difference between gains in favor of pulp		20%	18.5%
Cost of feed per 100 pounds gain	Pulp	$10.28	$10.04
	Silage	12.28	13.93
Selling price, per 100 pounds	Pulp	12.25	17.25
	Silage	11.50	16.25
Dressing per cent	Pulp	61.7%	61.0%
	Silage	60.3%	59.5%
Shrink	Pulp	5.03%	4.9%
	Silage	5.10%	5.9%
Profit per head	Pulp	$23.65	$53.15
	Silage	12.62	36.44

Contrary to general opinion, the pulp fed cattle shrank less and dressed higher than silage fed. Averaging all three years' work, the average per cent difference between the average lot gains was 20.7 per cent in favor of pulp and the average per cent difference between the profit per head was 44 per cent in favor of the pulp.

Because pulp and corn silage both vary a great deal in quality and dry matter content, any general statement as to their relative feeding value is sometimes misleading. However, approximately, two and one-half tons of beet pulp will give the same gain as one ton of corn silage. The table below will give the reader some idea of the importance of dry matter in pulp:

Month Pulp Is Fed	Approximate Dry Matter	Lbs. Required to Equal One Ton Silage
October	6%	7200
November	7%	6200
December	8%	5425
January	9%	4820
February	10%	4340
March	11½%	3770

Any consideration of the comparative cost of gain with pulp or silage must include the cost of haul of pulp. Figuring man hours at thirty cents per hour and horse hours at fifteen cents per hour, and that the average load of pulp is three tons and moved by a two-horse team at the rate of two miles per hour and that three-quarters of an hour is consumed in loading and weighing at the factory and unloading at the feed lot, the following table gives the cost of haul of one ton at various distances from the factory, and the cost of two and one-half tons laid down at the feed lot. Different hauling conditions will alter to some extent the cost of haul per ton given below.

Miles out	1	2	3	4	5	6	7	8
Haul cost per ton	$ .35	$ .55	$ .75	$ .95	$1.15	$1.35	$1.55	$1.75
2½ tons laid down at $1.25 per ton	4.00	4.50	5.00	5.50	6.00	6.50	7.00	7.50

Since the cost of producing a ton of silage is from $6 to $8 laid in the silo, it will appear from the above table, on the basis of actual gain in weight, that the feeder cannot afford to haul two and one-half tons of pulp much farther than six or seven miles. However, when the feeder considers that a better market price was secured for the pulp fed cattle, he can figure hauling even further than this and still come out ahead.

In 1916-17, with $4 corn silage and 75-cent pulp, our station could have hauled 2½ tons of pulp over ten miles at a total cost of pulp and haul of $10, and still break even with corn silage. This past spring (1918), with $1 pulp and $6 corn silage, our station could have hauled 2½ tons of 10% pulp over ten miles at a total cost of pulp and haul of $13.25 and still made as much money as the silage lot. These statements may be misleading unless the reader keeps in mind the fact that these cattle were fairly well finished at the time of marketing, having been fed 140 and 126 days respectively.

Two factors limit a wider use of pulp, namely: the cost of haul and the amount available. At present approximately 50% of all pulp hauled is fed within a radius of two to three miles of the factory and very little is hauled over five miles. This investigation clearly demonstrates that the grower over five miles can depend on using his own pulp and feeding it at a profit.

Concerning the second point, only increased acreage will solve the pulp scarcity.

By siloing the beet tops, the beet grower and cattle feeder can lengthen his feeding operations to a successful conclusion without introducing another cultivated crop, requiring more labor and land. Mr. H. Mendelson of the Great Western Sugar Company says: "The food value of an acre of beet tops is more than that resulting from the pulp and molasses produced from an acre of beets."

We must either feed an average of 20 steers to a grower (a number which is too few to handle profitably) or supply enough additional feed, either in beet tops or corn silage, to finish 50 or 60 steers to that degree of finish which will assure the average feeder a decent profit.

While beef and sugar are needed for the successful prosecution of the war, Colorado beet growers and cattle feeders will undoubtedly increase their operations as speedily as possible.

Cottonseed Cake vs. Barley

Cottonseed cake proved a better supplement to a molasses, corn silage and alfalfa ration than barley, as shown in the summary table by comparing Lots 2 and 3.

We found it difficult to keep Lot 3 on feed. Because cottonseed cake is more binding than barley, it would appear that the loosening characteristics of corn silage and molasses were better counteracted in Lot 2 than 3.

The addition of cottonseed cake slightly increased the rate of gain, cheapened the gains by $1.83 on 100 pounds, and returned a greater margin of $5.93.

Two pounds of barley were required to give the same gain as one pound of cake. As long as cake and barley can be secured for nearly the same price, it will pay the feeder to sell his barley to the miller and buy cake.

Corn Silage vs. Barley and Alfalfa

The ration of Lot 4 has always proven an exceptionally good one. It is one that can be grown and secured in all of the irrigated districts of the state. This lot dressed the highest and the shrink in transit was the second lowest.

Although the additions of corn silage to a barley-alfalfa ration did not increase the rate of gain per head per day, it reduced the cost of gain over $3 on every hundred pounds. One ton of corn silage replaced 218 pounds of barley and .350 tons of alfalfa which, at the market price of barley at $2.50 and alfalfa $18 per ton, was worth $11.75 per ton.

The addition of silage increased the margin over the cost of feed and initial cost of steer by $8.00. If our station had paid $13 per ton for the silage, we would have made as much profit from the silage, barley, alfalfa, as we did on the barley and alfalfa. It is interesting to note that these silage-fed cattle dressed considerably higher than the grain-fed.

The following table, made from the average results of our three years' investigation on silage, gives its value per ton when barley and alfalfa cost various amounts. Averaging the three years' work, one ton of corn silage replaced 163 pounds of barley and .312 tons of alfalfa:

Value of Corn Silage

Alfalfa per Ton	Barley, per Cwt. $2.50	$2.75	$3.00	$3.25	$3.50
$15	$ 8.75	$ 9.16	$ 9.56	$ 9.97	$10.38
16	9.06	9.47	9.87	10.28	10.69
17	9.37	9.78	10.18	10.59	11.00
18	9.69	10.10	10.50	10.91	11.32
19	10.00	10.41	10.81	11.22	11.63
20	10.31	10.72	11.12	11.53	11.94

For example, when alfalfa is worth $18 per ton and barley $3 per hundred, corn silage is worth $10.50 per ton.

Corn vs. Barley

This year's results do not give as good a feeding value of barley compared with corn as the work of 1916-17. Averaging both years, 100 pounds of barley gave the same gain as 90 pounds of corn. Both lots returned the same profit per head, but the corn, giving a larger gain, sold for a quarter more per hundred.

The usual difference in price between new barley and old corn during the early fall months will often more than make up for this slight difference in feeding value. Again, 36 cents freight on corn may make home-grown barley look awfully good.

From the margin over the cost of feed and initial cost of steer must be subtracted the labor cost per steer, marketing cost per steer, and interest on money invested per steer in order to determine the profit per head.

The excessively high cost of grain feeding is illustrated by Lots 5 and 6. When pulp or silage was the foundation of the ration, the cost was materially decreased and the profit almost doubled. Under such prices of light feeders and available feeds, fed the long way with the right combination, the cattle feeder can do a most valuable service in supplying our urgent war needs for beef and at the same time feel justified in figuring on a fair profit. Farmers interested may procure a copy of bulletin giving complete results, on application to the State Experiment Station at Fort Collins. This bulletin will be ready for distribution about October 1st.

Summary of Steer Feeding, 1918

(Length of feeding period, 126 days)

Lot Number	I	II	III	IV	V	VI
Mean initial weight	853.9	839.2	827.8	822.9	843.3	838.7
Average final weight	1147.2	1082.6	1060.9	1040.3	1072.6	1105.5
Average gain	293.3	243.4	233.1	217.4	229.3	266.8
Average daily gain, pounds	2.327	1.931	1.850	1.725	1.819	2.117
Feed Consumed per Head per Day						
Pulp (dry matter)	8.28	....	....	....	....	....
Corn silage	....	22.96	21.02	20.88	....	....
Cottonseed cake	2.99	2.99	....	....	....	....
Sugar beet molasses	3.87	3.88	3.20	....	....	....
Corn	....	....	....	....	....	10.60
Barley	....	....	5.77	8.47	11.34	....
Alfalfa	7.66	9.35	8.51	8.50	16.69	18.57
Pounds of Feed per 100 Pounds Gain						
Pulp (dry matter)	380.0	....	....	....	....	....
Corn silage	....	1069.8	1022.2	1089.2	....	....
Cottonseed cake	115.6	139.7	....	....	....	....
Sugar beet molasses	149.6	181.2	155.7	....	....	....
Corn	....	....	....	....	....	450.6
Barley	....	....	280.9	442.0	560.9	....
Alfalfa	296.3	435.7	413.9	443.9	825.3	789.1
Cost of feed per 100 pounds	$10.04	$13.93	$15.76	$18.31	$21.45	$20.62
Cost per 100 laid in lot	10.75	10.75	10.75	10.75	10.75	10.75
Average cost per head	91.79	90.21	88.99	88.46	90.65	90.16
Average cost feed per head	29.45	33.91	36.74	39.81	49.18	55.01
Average total cost	121.24	124.12	125.73	128.27	139.83	145.17
Selling price per 100	17.25	16.25	16.00	17.00	16.75	17.00
Selling price per head	188.22	165.39	161.07	168.49	172.15	177.18
Margin over cost of feed and initial cost of steer	66.98	41.27	35.34	40.22	32.32	32.01
Dressing per cent	61.0	59.5	59.8	62.3	59.4	60.5
Per cent shrink (13 hours on cars)	4.9	5.9	5.1	4.7	4.1	5.7

Cost of Feeds, 1918

Alfalfa	$18.00 per ton	Barley	2.50 per ton
Pulp	1.00 per ton	Corn	3.00 per ton
Cake	65.00 per ton	Corn silage	6.00 per ton
Molasses	25.00 per ton		

Buy Mill Feeds Early

Farm supplies of mill feed for winter may advantageously be secured after the first part of September, when danger from spoilage is past. With the establishment during July of fair prices for mill feeds, which licensed millers and dealers cannot exceed without penalty, the mill feed market became practically as stable and definite as that of wheat. Delayed orders will not insure a saving. Each invoice of the mill must have printed on it the fair prices. Consequently it is easy for any representative of the Food Administration or for any buyer to know whether a mill has overcharged. Far-seeing farmers who secure their winter supply of wheat mill feeds during September and October have the added satisfaction of doing a patriotic act by relieving the railroads

Fremont County Farm Bureau Works by the Card

FARMERS ADOPT ORGANIZATION PLAN WITH COUNTY AS UNIT

ANYONE desiring a comprehensive view of the agricultural problems confronting the farmers of Fremont county, Colorado, might have obtained it by attending the annual picnic of the County Farm Bureau at Canon City, August 29th. The bureau has been organized along the lines suggested by H. W. Hochbaum, state leader of county agents for Idaho, and known as the Idaho plan. At the time this plan was explained to the Colorado county agents at their annual meeting in July, there seemed to be some doubt as to its practicability. However, several of the county agents are putting it into effect and they are more than pleased with the way in which farmers are taking hold of it. Farmer leadership and farmer government of the bureau's activities are two strong points. It puts democracy into action in agricultural matters by giving the farmers the initiative in the work of improving local methods of production and distribution. A more complete outline of the plan will be found on another page of this issue, from the pen of State Leader Lovett of Colorado.

It was interesting to the writer to observe the manner in which the organization is being worked out in Fremont county, where the farmers have taken hold of the work with a determination that insures success.

Success of county agent work depends upon the measure of co-operation given the agent by the farmers. Where the farmers do not have opportunity to take the initiative the county agent soon finds himself working for a few groups or cliques, or for a few scattered sections, instead of for the entire county. It is one of the strong features of the new plan to take the county as the unit of organization and enlist the co-operation of all the farmers in the improvement of agricultural conditions of the whole county. Not that every farmer's membership is sought at once, but by making the organization a representative one, and doing well the work projected by these representative farmers from all sections of the county, it will undoubtedly be found, in two or three years, that practically every farmer will desire to enroll as a member.

County Agriculturist Ralph R. Jeffries, at the suggestion of committeemen from various sections, prepared a chart outlining the work for the coming year. The chart was suspended from the speaker's stand in State park at the Canon City picnic, so that all might see the outline, which is as follows:

Pest control: Bean beetle, grasshoppers, prairie dogs.
Crops and seeds: Soil fertility.
Horticulture: Pruning, orchard culture, spraying.
Livestock: More and better dairying.
Boys' and Girls Clubs: Agricultural club work.
Food: War bread, substitutes.
Clothing:
Home Conveniences: Labor saving devices, home water supply.

Committees were announced to have supervision of these projects in the sections of the county asking for the designated work. The list reflects accurately the most pressing problems which the farmers desire to solve. They give the county agent an idea of what is expected of him in the way of information and assitance, and what expert help may be called for from the Agricultural college from time to time. It means working with and to a plan, instead of in haphazard fashion.

Business and pleasure were combined at the picnic. There were brief addresses, the speakers being State Senator Agnes Riddle, Director H. T. French of the Extension department of the Agricultural college, A. E. Lovett, State Leader of County Agents, and the editor of Western Farm Life. Patriotic songs were sung by a chorus of Canon City girls under the leadership of Miss Millicent Steacy, and the State Penitentiary Band played a number of selections, mostly of a patriotic character. Richard Houle, one of the pioneer fruit farmers of the Canon City district, presided.

Reports were called for from various ditricts regarding the work most needed in each, and these reports, given by the committeemen, embodied the projects above outlined. On the report of the nominating committee, the following were made the unanimous choice of the bureau as officers for the ensuing year: Richard Houle, president; C. M. Chase, vice-president; Frank Lamb, secretary; W. C. James, treasurer. These officers, together with the following named, serve as executive committee: John Steinmeir, E. C. Kibbe, Mrs. W. W. Goodwin, Mrs. Francis Batchelor, Mrs. E. C. Kibbe.

It will be noted that the women's work was not forgotten and that the women are well represented on the executive committee. The bureau has the benefit of home demonstration, service, Miss Fannie Virgil serving as home demonstration agent for Fremont and Pueblo counties.

Committees in charge of work for the various communities that had been appointed up to the time of the picnic were as follows:

Penrose

Community Chairman—J. E. Chamberlain.
Bean Beetle—Al McBeth.
Pruning—E. M. Johnson.
Soil Fertility—I. E. Franklin.
Better Seed—L. F. Johnson.
More and Better Dairy Stock—J. A. Titus.
Women's work to be decided upon.

Hardscrabble

Community Chairman—H. Halvorson.
Grasshoppers—E. E. Dickson.
Soil Fertility—Lester Jennings.
Substitutes—Mrs. Albert Lehrer.
Home Conveniences—Mrs. H. Halverson.
Boys' and Girls' Clubs—Mrs. E. E. Dickson.

Four Mile

Community Chairman—D. T. McIntyre.
Spraying Demonstrations—D. T. McIntyre.
Better Seed—P. N. Carlson.
Home Conveniences—Mrs. R. E. Lovern.
Poultry Feeding and Marketing—Mrs. A. Augustine.
Substitutes—Mrs. T. Ward.
Boys' Clubs—John Steinmeier.
Girls' Clubs—Mrs. E. R. Pittman.

Lincoln Park

Community Chairman—E. C. Kibbe.
Orchard Culture—M. E. Snow.
Pruning and Grafting—W. W. Plummer.
Truck Growing—I. F. Davis.
Home Conveniences—Mrs. W. W. Plummer.
War Breads—Mrs. M. E. Snow.
Boys' and Girls' Clubs—E. B. Woodford.

Director French congratulated the farmers on the progress they were making under the new plan of organization and on the fact that the annual meeting was so completely in the hands of the farmers.

Senator Riddle made a rousing patriotic talk. The woman state senator—one of the very few women in the United States to have been so honored—is always popular with farmer audiences because she has been a lifelong dairy farmer. Since the country entered the war Senator Riddle has devoted practically all of her time to Red Cross and other patriotic work, aiding the extension department of the Agricultural college in keeping the farmer's mind on the task of food production, as well as urging financial participation thru buying war bonds and thrift stamps.

Fremont county has its peculiar problems; the same as those which confront practically every fruit-growing district in the Rocky Mountain region. Mistakes were made in the development of fruit raising that have worked hardships on those who entered the business in the boom days, when land values were inflated. The most glaring fault in the fruit development plans was restriction of acreage to small parcels of from five to ten or twenty acres. This forces the grower to rely exclusively on fruit and truck crops. Under high altitude conditions seasons vary greatly. The margin between success and failure is always narrow; often one or two days is the measure of it. Over night sometimes a season's crop is ruined by a sudden freeze, and the grower who has nothing to fall back on finds a year's work gone for naught.

In such districts the problem is to provide a sure income from some

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Lapham Sale Shows the Value of Cow Testing

PICKED COWS FOR PERFORMANCE RATHER THAN PEDIGREE

NEVER was the value of a cow testing association more clearly shown than during the recent sale of Milking Shorthorns on the farm of Archer Lapham at Castle Rock, Colorado. Because his son has gone to war and business in town required his full time, Mr. Lapham, one of the first to undertake the breeding up of a Shorthorn milk herd in Cow county—known as Douglas county on the ordinary map—was compelled to sell his livestock and farm equipment at auction August 20th. There was great interest in the sale and everybody for miles around came to watch its progress, or to pick up a cow or two, or perhaps an implement, or some other needed article. We shall not trouble the reader with details on anything except the milk stock. That is where the interest was because Mr. Lapham's neighbors knew the sort of stuff he had been breeding.

It is an old saying that the dairy farmer wants the cow that puts milk in the pail; that he is interested more in performance than pedigree. That certainly proved true at this sale. Only three registered animals were offered, aside from the herd bull, and they sold practically no higher than the unregistered cows for which Mr. Lapham had Cow Tester Button's official sheets on milk and butter fat production and profit above feed cost. It was easy enough to get from $175 to over $200 for cows that, during a three months test last spring, showed net profits running all the way from $40 to over $60. It doesn't take long to get back the money invested in a cow of this kind; and then the farmer has the the cow and her increase to boot, for practically all of these cows were in calf when sold.

It will pay dairy farmers to study the accompanying table, which shows the three months' milk and butter fat record of each cow in pounds, the net profit above feed cost and, in the last column, the price at which each cow sold at the auction.

Not one of these good cows sold to any buyer from outside of Douglas county, which is only another evidence of the fact that these Cow county dairy farmers know good stuff and keep it at home. The herd bull, Pine Valley Raleigh, who was winner of the blue ribbon as a yearling in the Milking Shorthorn division at the National Western Stock show in 1917, sold to H. Bert Cave of Parker for $450. Mr. Lapham bought him at the 1917 show from the Pine Valley ranch for $200. He is just beginning his usefulness as a herd header.

The registered animals, two cows and a calf not on the accompanying list, were the property of Thomas Lapham, son of Archer Lapham, and who has gone to war. The six-months-old heifer, a promising daughter of Pine Valley Raleigh, sold to Mike Wyatt of Sedalia for $160, after a lively contest with other dairy farmers eager to get the calf. A five-year-old cow sold for $210 which was top price for the sale, and the three-year-old for $170.

In addition there were several other cows that have not been on test and on which prices ranged from $62.50 to $175.

The Douglas County Cow Testing association has 25 members with 600 cows in the test at present, at the rate of $2 per cow per year. The members have found the association a paying investment, altho it has been going only two years. A decided increase has been noted in milk production, better returns are being received from the creameries in some instances, the farmers now being able to check their tests, and when sales have been made, prices received for cows on which records could be shown, have averaged anywhere from $20 to $60 more than would otherwise have been obtained.

Silo building is going steadily on, eight new silos having been erected by association members this year. Only two members are yet without silos, while several have more than one. The breeds represented are Holstein, Milking Shorthorn and Jersey, in the order named.

Douglas county has for years been a large producer of milk and since the establishment of county agent work and the cow testing association the farmers have been brought together for co-operative action in bettering their herds and their feeding methods, with results that are highly profitable.

Name	3 Months' Production Lbs. Milk	Lbs. Butterfat	Profit Above Feed Cost	Price Sold For
Beauty	2521	109.5	$62.26	$192.50
Belle	2309	92.3	51.55	160.00
Bess	1941	75.1	40.86	136.00
Blossom	2496	100.3	56.48	202.50
Buttercup	1399	56.5	29.30	101.00
Countess	2499	94.8	53.13	125.00
Daisy	2688	110.9	62.82	175.00
Duchess	1785	73.0	39.54	170.00
Eva	1850	60.2	30.71	125.00
Iris	2620	103.8	56.68	192.00
Jewel	2328	104.2	58.83	200.00
Maggie	603	28.8	12.57	162.50
Milkmaid	2145	74.7	40.73	200.00
Pet	2700	109.1	61.86	137.50
Plum	2542	97.5	54.93	165.00
Six Teats	1961	86.3	47.80	87.50
Sox	2632	111.5	62.65	200.00
Spot	2787	99.5	56.19	175.00
Peach	1907	67.9	38.92	157.50
Average per cow	2200	87.1	$48.42	$161.27

He's Helping Uncle Sam

I have been thinking for some time I would try to break into the columns of Western Farm Life to help all I can in any honorable way to win the war, and if we help one another we are helping to win the war. Now if you have a good dollar and I have one and we exchange, it's an even break, but if you have a good idea and I have one and we exchange we are both benefited.

The United States is very short of and much in need of farm labor, or more advanced farm machinery. Now, where is this needed help coming from? It looks like there is sure to be considerable waste in the east end of Las Animas county if we don't get more help to harvest our crops, and I presume conditions are very similar all over the United States. Now, I will refer to my own condition, as I believe it is very similar to that of a great many other farmers. Here is my condition: no help at all, no money to hire help, and no help to hire if I had the money. Well, I guess we could get the money some way if we could find the help. In this newly settled country most of us have to build our granaries and store-rooms yet to hold our crops. I have a good prospect on 45 acres of beans, 20 of corn, 25 of maize, 5 of feterita, 6 of broom corn, 6 of Sudan grass, and 2 of spuds, pumpkins, squashes, etc.—more than 100 acres in all. I understand there is a possibility of some of the soldiers in training being furloughed to help harvest the 1918 crops, but that is not all; there is trouble ahead. The farmer has got to have help in some way if he produces all that is expected of him in 1919. Now, I would like for someone who has more ability than I have to commence figuring for 1919. I feel sure the farmers will be equal to the requirements, but it is none too soon to begin preparing for 1919. I will continue to refer to my own condition only to show the needs of others as well.

Now, there has been five young men drawn for service out of my immediate neighborhood, who have left their land as well as their personal effects with me to care for and use until they return, or until the war is over. Now if I had the kind of machinery I need, I could be farming 500 to 700 acres in 1919 instead of about 200 with the help I have arranged for next year and the kind of machinery I have now. I will not be able to buy this needed machinery, so it seems to me that if the government would take over tractor and implement factories and furnish the farmers with such machinery as they actually need to meet these requirements, then the government could continue to draw freely all the men they need to corner and whip the kaiser and all his forces and still have the assurance that we old heads, the ladies and the children would provide the necessities of life to keep the fighting force of the United States and her allies up to a good, healthy, strong fighting standard, where victory and a permanent peace would soon be ours.

I believe Western Farm Life a good place to start a move to help the farmers solve this problem for 1919. I would like to see the servants of the people in Washington, D. C., get busy and try to help solve this problem in time, so that the farmers of the United States could do what they are expected to do in 1919. I believe it can be done, but I know I am incompetent, so I will not suggest any specific plan. I will say, however, if a farmer receives help direct from the government to supply his needs and then breaks faith with his government on any reasonable requirements, that there should be a law providing a severe punishment for such violation, and that the punishment should be speedily applied.

I believe everybody should do their bit, and I believe most everybody is trying to; the spirit of the country is so strong in this win-the-war feeling, that if one's heart is not exactly right they will naturally get the habit. So then just a suggestion how some good can be accomplished is sufficient, so I make this one. We were up against a shortage in both field and garden seed last spring, and now is the time to begin to save to prevent the same thing from occurring next spring. We should save abundance of seed, as we are liable to be drawn on from other countries for seed next spring. In former years we imported a great many seeds from other countries, but conditions have changed so that we may have to supply them with some seeds. So let's save abundance of seeds this year and don't forget to save such seeds as will give you a variety of farm products for table use at home during all seasons of the year. By so doing we may be able to save more of the meats, sweets and wheats for our own dear boys and their allies over there.—J. M. Kinyon, Kim, Colo.

Trapping for Furs

Perhaps the farm boys of the country—their elders too—have not put two and two together enough to realize that there has never before been a time when trapping promised such big results as this coming season.

The reason is plain. Thousands of men who have trapped other years are now with Uncle Sam's fighting forces. That means a shortage of furs and a shortage means high prices.

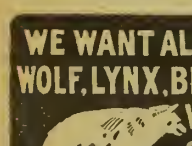
Almost any farming section of the United States affords fine opportunities for profitable trapping. It isn't necessary to go off into the wilds to trap fur bearers whose skins bring good prices. Aren't there mink, muskrat, civet cat, bob cat, mountain lion, wolf, skunk, fox, weasel, badger, right at hand? Of course there are—and they sell as readily as skins from the interior of Alaska or the wilds of Canada. Here is safe, profitable sport.

This is a hint in time—to farm boys and others who either haven't trapped at all, or who have only gone at it with indifferent effort. A whole lot depends on being ready beforehand. The successful trapper begins looking over trapping grounds weeks before the first trap is set. He sees to it that his old traps are in good condition.

Write to the big fur houses and ask them for their catalogs and booklets. Many of these contain valuable information obtained from "old timers" about their methods and the habits of animals. Ask for the names of good, practical books on trapping. See what you can find out from those you know who have trapped. In other words, be energetic in looking up all the information you can.

The best part of it is that any intelligent boy can quickly learn trapping. It isn't mysterious. And it is both great sport and one of the best ways to make a considerable sum of money. Trapping isn't like working hard for small pay in spare time and maybe doing work that is distasteful. The boy who traps is his own boss and doing something that stirs the blood with exercise and excitement as well as with the big financial reward which is sure to come as a result of real, conscientious effort. Be a trapper this year.

WE WANT ALL KINDS OF FURS
WOLF, LYNX, BEAR, FOX, BEAVER, WILDCAT, MUSKRAT, SKUNK, MINK, ETC.
WEIL PAYS THE MOST



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We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

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Cut out this ad and mail it to us, with your name and address (no money); and we will send you our FAMOUS KARNAK RAZOR by return mail, postpaid. You may use the razor for 30 days FREE; then, if you like it, pay us $1.85. If you don't like it return it. SEND NO MONEY. MORE COMPANY. 442 More Building, St. Louis, Mo.

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The Original Kerosene Tractor
For War-Time Speed in All Farm Work

Thousands of Waterloo Boy tractors are drafted into service to speed up farm work—standing the most drastic service tests in field and belt work.

Its three-plow pulling capacity and 25 horsepower at the belt, easy handling and dependability give it the widest range of usefulness on the average farm.

1 Man
2 Speed
3 Plow

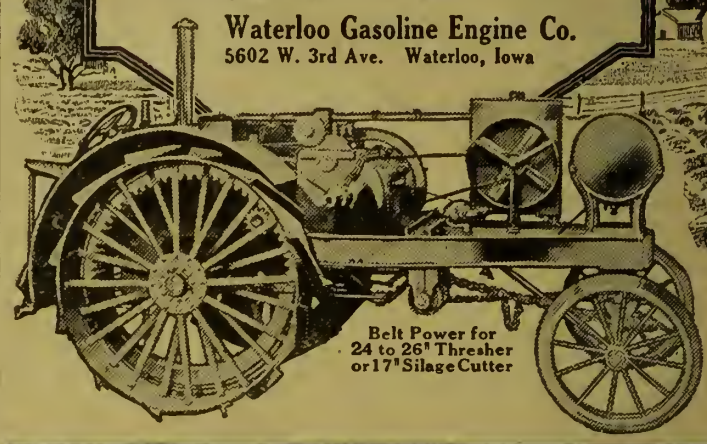
Stands on the Bedrock of Over 4 Years Proven Success

The Waterloo Boy has long since passed the experimental stage. It has the confidence of the farming world because of exceptional performance in the hands of users.

Powerful, quick-starting motor, perfect kerosene-burning manifold, automatic lubrication, complete and easy accessibility of working parts, are some of the features you will appreciate.

Illustrated catalog, sent free, shows detailed construction and numerous photographic views of Waterloo Boy tractors at work on farms. Write for it.

Waterloo Gasoline Engine Co.
5602 W. 3rd Ave. Waterloo, Iowa



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Built for farm use. Equally successful for drainage or irrigation ditches. Fine for terracing and levee work. Cuts the toughest alfalfa or sweet clover roots without plowing. Leaves the ditch with smooth, hard banks. Works in any soil.

IT DOES THE BUSINESS

All Steel Reversible-Adjustable

No wheels, cogs or levers. Made in 2, 4 and 6 horse sizes. Large size fine for tractor use.

10 DAYS TRIAL

The name Martin on a ditcher is an assurance of satisfactory field work. It is significant that most Martins now go where others Martins blazed the trail. Each machine sells another—and the reason is

Model 20

Popularity and True Merit

The Martin always has been and always will be sold **on its merits** and under a guarantee of satisfaction. More **Martins** are now in use than all other farm ditchers combined, and the facts stated in this advertisement tell why.

Get This Free Book

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Just say "send catalog" and we will mail a list of users near you, together with full particulars and many photographic reproductions.

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Continental Germ Free Blackleg Filtrate

Protects the Calves. Gives lasting immunity.
One administration only necessary.
Will not spread nor give disease.
It is Germ Free.
Price 15c per dozen. Discount in quantities
Distributors wanted

Continental Serum Laboratories Co.
Muscatine, Iowa

What Is a County Farm Bureau?

OUTLINE OF THE PLAN OF ORGANIZATION

A. E. LOVETT, State Leader for Colorado

THE County Farm Bureau is an institution for the development of a county program of work in agriculture and home economics, and for co-operating with state and government agencies in the development of profitable farm management and efficient and wholesome home and community life, for man, woman and child. It is an organized agrircultural democracy, by means of which farmers and their families express themselves concerning all matters relating to the advancement of agricultural, home and community life.

It is the recognized agency thru which the state agricultural college and the U. S. Department of Agriculture will co-operate in all extension work in the county, whether that work be with farm crops, farm animals, or the problems of the home and community life. It is the local institution, educational in character, for administering and directing the extension work in agriculture and home economics in the county, and for participating in plans for the inauguration and execution of such work.

The Farm Bureau has become the cornerstone for substantial building, and the county agent, no longer a mere farm advisor or dispenser of embalmed knowledge, is the recognized local leader of the educational forces, county, state, and national for the upbuilding of a more prosperous farm business and a more wholesome and satisfactory home and community life.

The Farm Bureau is a co-operative organization, organized for the purpose of building up the county, improving farm conditions, and promoting co-operation between the country and the towns. It is a recognized factor in rural life thruout the nation today.

What Does the Farm Bureau Do?

Promotes improved methods of crop production.

Introduces and studies new and profitable farm crops.

Promotes better methods of livestock management.

Promotes methods of plant disease eradication in field, orchard, and garden.

Promotes eradication of insect and animal pests.

Takes a systematic record of the farm business, with a view to making it more profitable.

Organizes boys' and girls' clubs.

Organizes home makers clubs and short courses.

Arranges for farmers' meetings, agricultural tours and extension schools.

Assists in county and livestock fairs.

Promotes breeders' organizations.

Encourages community co-operation.

Handles the labor, seed, crop, and marketing problems of the county.

Serves as a clearing house for all the activities of other farmers' organizations and co-ordinates their efforts.

Co-operates with other organizations in constructive work and improvements worth while for all of the people of the county.

How Does the Farm Bureau Work?

The Farm Bureau is organized to do the work which needs doing in your county. The first consideration, then, more important than the organization, is to determine the things which need doing. These needs are discovered and determined thru a study of the county as a whole and a program of work for the county is prepared. You are then ready for the organization of your Farm Bureau.

The Farm Bureau organization is particularly simple and contains only those elements which are necessary to carry out the program of work. It consists of—

(1) A representative membership of at least 10 per cent of the rural men and women in each community in the county.

(2) A community committee of men and women each of which is assigned as leader of some part of the community program of work.

(3) A county executive committee of nine to eleven persons which shall include the president, vice-president, and secretary-treasurer of the Farm Bureau. Each person on the executive committee, including the officers, is assigned as a county leader of some major project of the county program of work.

(4) Special, or project committees composed of the project leader on the executive committee and the corresponding members on the various community committees.

The Farm Bureau members elect the officers and other members of the executive committee at an annual meeting, and the executive committee appoints the community committee. The special, or project, committees are formed automatically.

The executive committee expresses the major lines of work as undertaken by the Farm Bureau in that particular county in that particular year. The community committees express the way the county program of work affects that particular community.

In the determination of projects and the adoption of a program of work for a Farm Bureau all phases of the subject are to be considered and the counsel and aid of the best subject-matter specialists available secured. It is here that the executive committee of a Farm Bureau needs the help of trained leaders in order that the program of work be sound agronomically and economically and that proper interrelation of projects be established. When such a program is developed the county agent, the home demonstration agent, the county club leader, the farm management demonstrator, and the various institutional specialists reinforce each other and the whole program moves forward. It is only when Farm Bureaus are organized on the broad basis of a complete county program of extension work that the establishment of such interrelation is possible.

Conserve Burlap Bags

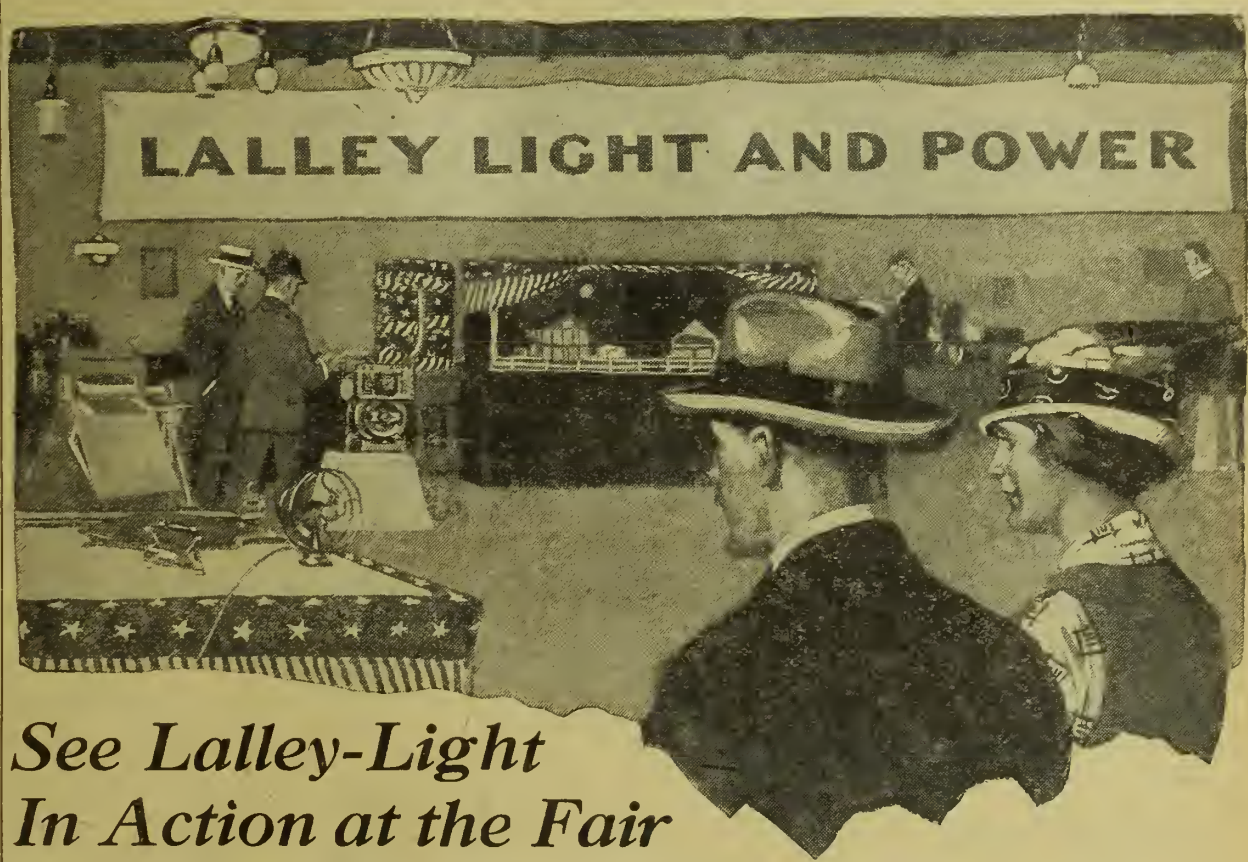
Continued and increasing war demand on the jute industry of India for burlap makes necessary the utmost conservation of this product which we have been accustomed to use freely, even wastefully. India is the great jute center of the world. There the jute is grown, made into fiber and manufactured into jute cloth which is commercially known as burlap or gunny-sacking.

Imports of burlap cloth by the United States normally average about 700,000,000 yards annually. After reaching this country most of the burlap cloth is sewed into bags, most of which are used as containers for food and feed. Investigations by the Food Administration show that somewhat more than three-fourths of all burlap imported is used by farmers in shipping agricultural products or in buying necessary supplies.

Familiar products shipped principally in burlap include cereal grains, millfeeds, mixed feeds, seeds, fertilizer, potatoes, onions, binder twine and nursery stock. In peace times burlap bags were worth about 6 or 7 cents apiece, and at this value dealers found it impractical to advertise for, gather and re-use second-hand bags. But the present price, which is about four times these figures, and the decreased imports owing to such enormous prices warrant the most careful conservation and re-use of bags.

The cost of the U. S. Food Administration for its first year's work was less than two cents for every person in the United States.

The famous Bar le Duc preserves and jellies are made with honey, not sugar.



See Lalley-Light In Action at the Fair

Lalley-Light will be exhibited, and in operation, at most of the county and state fairs this fall.

We ask you to note particularly the way it runs, and the character of the electric light and power it produces.

If you do this, we count on the plant itself to convince you of the superiority it has proven in eight years of every-day farm use.

You probably will be impressed, first, with its extremely smooth running; and the fact that a low hum is all you hear when it is running.

You will see that the electric lights are strong and steady all the time —without even a suggestion of a flicker.

You will observe, also, the same steady flow of power to the electrical machines which may be exhibited.

The men in charge will explain that Lalley-Light furnishes light and power from two sources—the storage battery; and the generator, independently of the battery.

That means with Lalley-Light you are doubly sure of having light and power.

Even if you are not of a mechanical turn, you can't help admiring the unusual simplicity of the plant, and its very compact design.

We urge you to study Lalley-Light, because it points the way to a great saving of farm labor and an equal increase of comforts and conveniences on the farm.

Next year the farmer's need for Lalley-Light's reliable, economical power and light will be even greater than this year.

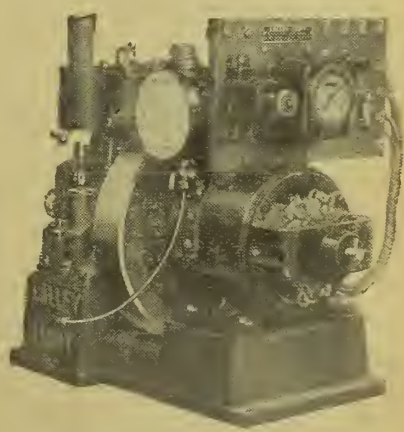
You should prepare now to meet that need.

If Lalley-Light should not be displayed at your home fair, write to us for details and name of the nearest Lalley-Light merchant.

Lalley Electro-Lighting Corporation
772 Bellevue Ave., Detroit, Mich.

DISTRIBUTORS

Lalley Western Electric Co., 25 E. Colfax Ave., Denver, Colo.
Oregon Motor Car Co., 8th and Davis Sts., Portland, Ore.
W. C. Garbe Motors Co., 1116-1118 Sprague Ave., Spokane, Wash.



Generating plant is 27 inches long, 14 inches wide, 21 inches high. Storage battery is included in complete outfit.

LALLEY-LIGHT
THE ELECTRIC LIGHT AND POWER FOR EVERY FARM

Western Farm Life

Issued the 1st and 15th of Each Month.

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Our Cover Picture

On the cover page of this issue are two views showing buildings and crop on the farm of C. J. Elliott on Wolf creek, in Arapahoe county, about 30 miles east of Denver. The upper picture shows the concrete barn, silo and granary. These structures are built to last. The silo is of cement staves or slabs, bound by steel hoops, which need no adjustment when once set. It is claimed for this type of silo that all danger of cracking due to contraction and expansion is eliminated. The granary is absolutely weather and rodent proof.

The lower view shows the crop of pinto beans on the Elliott farm. About fifty acres of beans looked as tho they would make an average of 700 to 800 pounds to the acre when the crop was inspected at the time of the Wolf Creek farmers' picnic late in August. The photo shows Mr. Elliott at the left, W. K. Edelen in the center and County Agent Walter Groom at the right. Mr. Edelen was called into the field by Mr. Elliott to look at the beans and advise whether they were ready for cutting. Mr. Edelen is considered one of the best dry land bean growers in that neighborhood and his judgment as to when to begin harvesting is asked by many of his neighbors.

Mr. Elliott is the owner of about 2,000 acres of land, about 600 acres being under cultivation to corn, beans, small grains and sweet clover. He also cuts a large tonnage of native hay in the bottom along Wolf creek. All operations are conducted by dry farming methods.

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Watch the Bean Thrasher

Seventeen per cent of the 752 carloads of pinto beans purchased by the United States Grain Corporation last spring were rejected because the beans were not up to grade. An excess of split beans was the cause of the greater portion of the rejections. Careless thrashing and the use of grain separators instead of bean hullers was responsible for the large percentage of the split beans. This information was imparted to the Colorado Bean Growers' Association at a recent meeting in Denver by O. H. Liebers, representative of the United States Food Administration, who handled the big government purchase at this end of the line.

Another cause for rejections, altho not as serious as that of split beans, was the presence of stones and dirt in excess of the grade maximum. Mr. Liebers cited one case of a large catering company in Chicago, who decided, after trying a carload of pintos, that they would use no more, because their patrons complained of stones in the cooked beans. The problem of eliminating the gravel and hard bits of adobe that stick to the beans is a difficult one, as these particles are often the same size and weight as beans and, therefore, are not readily removed in passing thru the cleaner. Hand picking may be the only solution of this problem, tho there is a machine now being tested that seems to do the work. This is a question for the cleaner to solve.

The split bean problem is strictly up to the grower. It is certain that, in order to establish a permanent market for pinto beans in the east, this product must be put up in a manner that will stand comparison with the hand picked product of the navy bean districts of New York and Michigan. We may be able to "get across" with some of the poorly graded stuff now because of the great demand for food of all kinds, but if we hope to make a permanent place at good prices for pintos they will have to reach the consumer in first class table condition. We might as well face that proposition now while the demand is at flood-tide and reap the benefits that will come from marketing a properly cleaned and graded product. Right now is the time to look after proper thrashing of the beans.

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How Shipping Affects Farming

"America never does things by halves. And when she decided to put the Stars and Stripes floating once more from the masts of a strictly American merchant marine she planned never to rest until that fleet of merchantmen was great enough to serve the cause of humanity in the great crisis of today, and in peace to serve the world in the development of its future trade. Just as these vessels we are launching today are serving unselfishly under the American flag, so they will serve ourselves and other nations after the war."

So says Edward N. Hurley, chairman of the United States Shipping Board. And in that statement is contained a gold mine of information for the farmer of the Rocky Mountain states. The war is giving us again a merchant marine; ample shipping for the foodstuffs produced by the United States in excess of our own requirements.

No other country will, at the close of the war, possess the shipping facilities that we have. No other country will be so well prepared to furnish material to meet the demands of the nations that need rehabilitation. Foodstuffs will be the first and greatest need. American farmers, especially those in regions where the population is sparse, will find a greedy market for every surplus pound of wheat or meat, and bottoms in which these products can be shipped. There need be no fear of a sudden decline in the demand for foodstuffs at the close of the conflict. We shall have the demand and the ocean-carrying capacity. It is up to the farmers to plan to fill this demand by continually building up their herds of beef and dairy cattle and laying out an extended program of cereal, bean or other foodcrop production, where natural conditions favor it.

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Handling Blowing Soils

Soils that blow require very careful handling. It is difficult to cultivate them in a satisfactory manner. Just how they should be handled will depend upon conditions. There are a few principles that will apply generally.

Most sandy soils have what is known as separate grain structure; that is, they do not stick together to form small clods or granules. For that reason, such soils tend to blow easily. You have doubtless observed that when sandy soil is first broken up, it will not blow so long as there is considerable of the sod remaining. The organic matter in the upper soil composed of plant roots and decaying vegetable matter, seems to cement the soil particles together and to prevent them from blowing. As cultivation continues, this sod wears out, the soil particles become separated and blowing results. If sufficient organic matter could be maintained in the soil to continue to cement the particles together, one could continue to cultivate the land without danger of blowing. The difficulty is in maintaining the organic matter. The formation of holes or piles is typical of all sandy soils that blow badly. As the wind moves the soil, it will naturally take more of it from points where it is easily moved, and these particles that are moved from there will be piled up wherever the force of the wind is broken or where they meet with an obstruction such as weeds or other material.

In handling such soils, the aim should be to keep the soil covered as much of the time as possible with something that will prevent blowing, and to grow such crops as will allow the soil to be worked at a period of the year when there is the least liability to blow. Such light soils should be kept in grass most of the time. The establishment of a stand of grass or alfalfa, however, is a difficult proposition. If one tries to get what is ordinarily considered a good seed bed, the soil will be worked so smooth and fine that it blows easily and the sand grains that start moving will quickly destroy the young plants. The only thing that can be done is to provide some kind of a cover that will prevent the soil blowing, before trying to establish the stand of grass. This may be done in a number of ways. A frequent practice is to grow a crop of cane sown broadcast and cut to leave the stubble rather high, and then seed the alfalfa in the stubble the following spring. Sometimes rye is seeded in the fall and the alfalfa seeded into the rye in the spring. The rye is cut for hay as soon as it has made its growth, or even earlier, if moisture is deficient. The rye should be seeded just thick enough to hold the soil. Another practice is to drill the alfalfa and then top-dress with manure or straw to keep the soil from blowing and cutting off the young alfalfa. The main thing in obtaining a stand of alfalfa on sandy soil is to keep the land from blowing. The sandier lands are usually deficient in fertility and organic matter, and after the alfalfa has been started, top-dressings of manure applied during the winter are very beneficial. There is probably nothing better than sweet clover, brome grass or possibly alfalfa for sandy soils.

In cultivating real sandy soils, crops are best that can be seeded comparatively late when the danger of most of the hard winds is past. Small grains have to be seeded early when the danger from high winds is greatest. Furthermore, a rather smooth seed bed is desirable. For these reasons, small grain is not considered a good crop on sandy soil. Potatoes and corn can be planted with lister and leave the land rough. The listing should be done crosswise to the prevailing wind. Corn has a further advantage of being put in late when the greatest danger of winds is past. Forage crops, such as cane, millet and Sudan grass will also be quite satisfactory. They are short season crops and can be planted after the worst spring winds are over.—Department of Agronomy, Nebraska College of Agriculture.

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At the primary elections in Kansas this year, there were a number of candidates who were in the army, and they were successful, tho their opponents were good men and were actively at work at home. This furnishes a good illustration of what is certain to be the condition in the future. The boys who win the war will rule the country.

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The experiences of the past season have pointed out what appears to be an unusual opportunity for poultry raisers next year. Prices have not only been continuously high, but there is every prospect for a long period of high prices. The scarcity and unusual cost of feed has affected those who are engaged in poultry raising commercially. This condition, however, should be taken advantage of by the farmers and ranchmen who can grow feed at a minimum cost. With all meats high and scarce there is nothing so good a substitute as poultry and eggs, and nothing can be made to pay better.

Strengthen the "home front" with home-grown" food.

The Branding Iron

Applied by Elias M. Ammons

Under the operation of the selective draft and enlistment system, most of the farmer boys have gone to the war, and yet farm production has been greatly increased thru extraordinary efforts of older men, women and children and by those who had retired from active farming returning to work. If the farm element could accomplish this splendid result, why shouldn't other industries be able to contribute their share of men to the army and at the same time furnish their share of war and other products? At the beginning of the war the selective draft seemed to be the wisest way to secure the best results from diversified labor. We had scarcely any previous preparation for the war. Because of unusual demands on account of war abroad, supplies had run very low, while a long period of unprofitable prices had driven men out of agricultural pursuits into the industrial walks and many staple crops together with meat production had fallen to a very low ebb. The shortage of labor because of enlistment and draft of large numbers of men from these pursuits and at the same time the unexpected increased demand for the products of the farm and the ranch presented a very serious situation in the country. The cost of maintaining the army, of building ships, of transportation, of manufacturing munitions, the expense of clothing and other war necessities were all necessarily based on the cost of food. The shortage of all food products caused an immediate rise in prices and the increase in wages paid in other lines of industry necessitated a corresponding increase in the cost of labor in the country. The most capable young men as a rule, owners of farms and working on farms, were called into the army, leaving a large amount of labor to unskilled workmen, most of whom cannot do a full day's work. Yet, under these conditions, the farmers have been able to show an increased production in this state, and if they, under these circumstances, have been able to do this, then other lines of industry should make as good a showing. In the future, then, there should be no exemption except in extreme cases, and if necessary for the government to take over transportation and factories, the men should be put into the service the same as the boys who are sent to the fighting line. There is absolutely no justice in our boys going to the front, assuming all the hardships and all the danger, while those who furnish supplies and munitions and run the transportation lines safely and comfortably at home are making all the profits. It has always been true largely, and will be now, that these men who are fighting our battles, with no possible profit, will, when they come home, spend most of their lives in working to pay the national debt increased by the profits made by those who have never encountered the dangers of war. If this struggle is to continue, the policy of conscription to provide supplies for the army should be put more and more into effect that the burdens of this great conflict for democracy shall be more equitably distributed. If our farm boys are all to go to the battle line, so should those from every other industry. No one can successfully maintain that anything is more necessary in the present great conflict than a plentiful supply of food.

* * *

Weather conditions being favorable, every farmer should plant more wheat to insure that Colorado keeps up its gain in production. Last year our general crop output increased 60 per cent over that of the preceding year, and in spite of partial drouth in some sections, a 30 or 40 per cent increase is promised for the season of 1918. Every effort should be employed to secure even a greater growth in production for 1919. This is one way that every farmer can do most effective work in not only winning the war but also in establishing greater permanent prosperity in the state.

Buy War Savings Stamps.

Comment by Farmer Putnam

HOW HE ENJOYED FRIED CHICKEN AT THE WOLF CREEK GRANGE PICNIC IN ARAPAHOE COUNTY

ONE of the farmers I met down to the Wolf creek picnick in Arapahoe county sez to me: "Say, Putnam, how is it that you're not pullin' beets or pickin' up spuds, or stackin' wheat, or in the army fightin' Huns? Don't you know that your work is non-essential and you're subject to the work or fight order? I've got a good notion to notify the draft board about your case."

That was roastin' me all right, but that feller don't know Josephine, or he wouldn't think that I ain't a-doin' my share of the fightin'. Of course that's domestic and not forrin' fightin', but believe me, I've had my share of goin' over the top in the last twenty-five years or so, and I ain't lookin' fur no battles, but willin' to go if Uncle Sam needs me. I know some of you folks, after seein' me at them picnicks, thinks I'm just a good-fur-nuthin' loafer with a fried chicken appetite and no aim in life, but don't be too hard on me. We got to have some amusement even in these here war times, and when I'm writin' this here nonsense remember that I git my share of the punishment. I had to ride out to the Wolf creek picnick with County Agent Groom in his jitney, so I earned my dinner. I was downright hungry when we got to Elliott's grove, and I reckon I showed it, because I heard one woman say to her husband: "Law me, there's Farmer Putnam; now I know I didn't bring nuff."

While sniffin' the coffee that was a-cookin' I got to talkin with Mr. McCullough about that food savin' business, specially about the sugar, and we was comparin' notes on it, agreein' that when it comes to savin', the farmer is doin' the biggest share of it. Take it on sugar now. The farmer's wife don't dare bake cakes and sweet bread on her allowance, because she won't have enuff left fur table use if she puts it into cakes, specially out on the plains where people don't have bees fur boney. Now in town a woman goes over to the bakery and buys all the cakes and sweet bread she wants and if she's a mind to, why they ain't nuthin' to binder her buyin' candy and eatin' till she swells up and busts. Us folks in the country cain't do that because we hain't got no bakery and candy store handy.

Now take it in them sugar beet raisin' districts, where they makes the sugar. Farmers that raises beets don't git no more allowance than people in town, and what's more, they has to pay just as much fur their sugar as the town man. It's funny, but I reckon I badn't orter show my ignorance of trade practices, but I cain't git it thru my head why the beet raisin' farmer or any town consumer fur that matter, in them beet raisin' districts has to buy sugar with the freight added, when the sugar never sees the inside of a freight car, and often when the farmer hisself raised the beets outen which that sugar was made. One of them sugar men tried to explain that to me onct, but I was too ignorant to understand him and I reckon I never will understand it, because the older I get the less I'm able to git the point of anything that ain't square.

Of course that hain't got nuthin' to do with our duty to save sugar and wheat fur the figbtin' men and the people that we're helpin' in Europe. After this war is over I'm promisin' my friends to run fur Congress and git all them things adjusted. No, I got to word that a little different: after the war I'm goin' to run fur Congress and PROMISE my friends I'll git all them things adjusted. Political promises is the biggest asset that them candidates has got and sometimes the only one. This is the season when everybody roasts the candidates and they cain't holler.

Well, I reckon I'd better be tellin' you-all more about the picnick. After the fried chicken was gone they called on Mrs. C. A. Lucas to make a speech. She is a ranch woman from over in Cheyenne county, where my friend Josh Adams runs a experiment farm. She's been tryin' to git them county commissioners to put in a county agent, but they keep tellin' her that, on account of the war, all luxuries has got to be cut out. I don't think a county agent comes in that class. If you-all should-a seen as many of 'em as I have, and seen what they're doin' to make farmin' a better business, by gittin' the farmers together in runnin' out prairie dogs, grasshoppers, army worms, and gittin' them to test and clean their seed, and pushin' the Liberty loan and Red Cross campaigns, and organizin' boys' and girls' pig, bean, spud and other clubs, and importin' good dairy and beef stock, and a-belpin' git cars to move crops and doin' other odd jobs mornin', noon and night fur the benefit of farmers, why county commissioners wouldn't act like they was doin' the government a favor by appointin' the agent. I hope Mrs. Lucas will git the commissioners to put a man in Cheyenne county, because I cain't come down fur a visit onless they has a county agent to show me around in his jitney.

Mrs. Lucas talked about tree plantin', sayin' that trees was, next to the soil, the best thing the farmer has got. They protect the soil from blowin' and dryin' out, help hold the moister and break the force of the wind, besides makin' the dry land farm a better place to look at and live on, specially fur the wimmin folks.

Some of them dry land farmers seems to have a grudge ag'in trees. They're afraid they will obstruct the view, I reckon, and they don't want the landscape littered up with groves, because they need the room fur Rooshian thistles. Them Wolf creek people didn't feel that way about it. State Forest Morrill give 'em a talk on how, when and what to plant and told 'em about the state sellin' trees at cost, so they give him orders fur about 5,000 trees which is goin' to make things look better on lots of places. It was a good place to talk tree plantin' because we was standin' under them big cottonwoods in Elliott's grove. Them trees was planted by the birds which ain't so selfish about it as us humans. When a bird

(Turn to Page 12)

Big Money in Running Water

Let us start you in business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

There is a big demand for wells to water stock and for irrigation

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co.
Box 943 Clarinda, Iowa

England's Experience

At the beginning of the war there were only a few women employed by the banks of England. Today there are 35,000.

The thousands of clerical and office positions left vacant by the young men in service must be filled by young women. The best places will go to those who are specially trained.

Come to our School NOW and prepare for a position in the spring. Write for new catalog.

Barnes COMMERCIAL SCHOOL
1635-40 Champa St., Denver

TEN (OF MANY) CASE Betterments

1 Weighs only 3400 pounds, little more than a team of horses. Low and compact with short wheelbase. Turns in 22 ft. circle. Stays on all fours.

2 Rated 10 H. P. on drawbar, but develops nearly 14 H. P. Rated 18 H. P. on the belt but delivers about 24 H. P. This insures abundant reserve power.

3 Four cylinder Case valve-in-head motor. Removable head. Motor is set crosswise on frame, affording use of all straight spur gears. This conserves power.

4 Belt pulley mounted on the engine crank shaft. No gears used to drive it. Pulley is part of the tractor, not an extra-cost accessory.

5 All traction gears are cut steel, enclosed and running in oil. No bevel gears, chain, worm or friction drive parts.

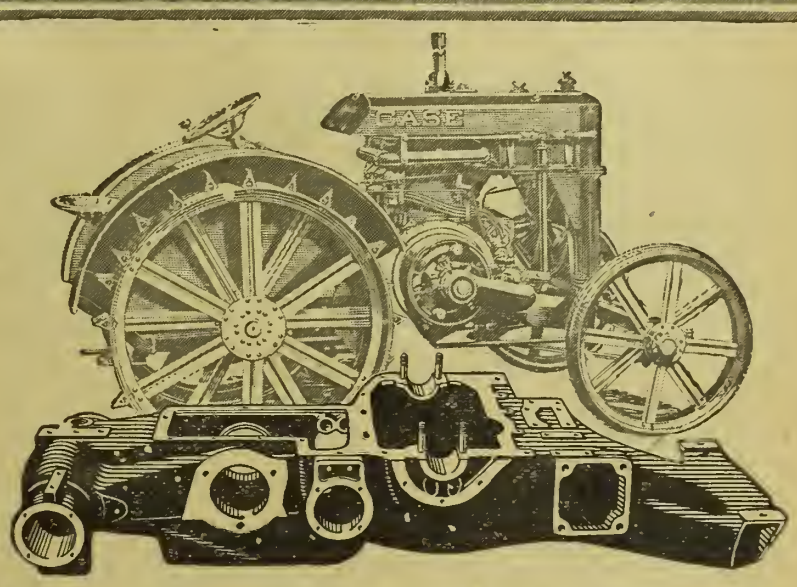
6 Case-Sylphon Thermostat controls cooling system and insures complete combustion of kerosene in the motor. Prevents raw fuel from passing by pistons and diluting oil in the crank case.

7 Case air washer delivers clean air to carburetor. No grit nor dust gets into cylinders to minimize their efficiency and shorten their life.

8 All interior motor parts lubricated by a combination pump and splash system. Speed governor, fan drive and magneto are dust proof and well oiled.

9 Complete accessibility. No dismantling necessary. Removable covers permit you to get at parts quickly.

10 Hyatt Roller Bearings in rear axle, bull pinion shaft and transmission case. Kingston ignition and carburetor. Five-piece radiator with a cast frame. Core is copper. Fin and tube non-clogging type.



This One-Piece Main Frame
Reduces Vibration—Prevents Disalignment

Here we picture a new tractor achievement—the frame of a Case 10-18. It is the fore-runner of new-day ideas in designing.

Note that this casting constitutes a dust-proof housing for the rear axle, bull pinion shaft, transmission shafts and the bearings for these parts. It also provides a base for the motor, which sets cross-wise.

This type of frame construction brings rigidity unattainable in a fabricated frame. It insures constant alignment of bearings, shafts and gears. Owners avoid gear troubles. Thus we prevent power losses.

And we multiply strength while reducing weight.

This one-piece frame is one of the greatest advancements in tractor history. It was inevitable. Others are bound to follow. But Case is in the lead. Case offers you now, today, what later on will be adopted generally.

This is only one of many betterments, some of which are itemized at the left. Do you know of any tractor offering all these superiorities?

A complete description of the Case 10-18, with illustrations and specifications, will be mailed upon request. Write for it today. Or visit a Case dealer.

J. I. Case Threshing Machine Company, Inc.
(Founded 1842)
1299 Erie Street, Racine, Wis., U. S. A.

CASE KEROSENE TRACTORS

(781)

Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Selling Before Patent Issues

Can I sell and give warranty deed to a piece of land I have proved up on and got my final receipt for, but have not got my patent? I sold or bargained to sell a piece of land that the railroad cuts off, and as the papers have not been made out yet the party says he won't pay all down, and he wants a contract until I get the patent.—Subscriber.

You can sell by warranty deed the property you describe and after you get the patent your deed will carry the land. However, should patent not issue to you the purchaser would get no title. In all probability you will get your patent, but since you do not have it, you cannot give a clear title.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver.

Angle Worms in Garden

Will you please tell me what to do to rid my garden of angle worms? These have become so thick that I have abandoned the garden entirely for the last two years. I have some fruit trees in this garden, and they seem to be dying, too, from the effects of the worms. I have been told that lime would kill them, but as lime sells for $4.00 a hundred here, and the garden is so large, I am writing to you, hoping that you can suggest something at a less cost.—C. G. C., Moffat County, Colo.

I receive a few inquiries every year concerning methods for the control of angle worms in the garden. My garden, and those of my nearest neighbors, have a great abundance of these angle worms, but I have never noticed that they were doing any injury and I do not know of a practical method of destroying them. These worms are readily attracted to the surface of the ground by excessive and continual moisture. A garden should be thoroly irrigated and the surface stirred with a hoe or cultivator as soon as it is dry enough to permit cultivation. The surface then should not be wet again until the plants are in need of moisture. By following this method the angle worms will be kept well below the surface. Water on the surface always attracts them, as all have observed the large numbers that come out during heavy, or prolonged rainy spells.—C. P. Gillette, State Entomologist.

Eradicating Canada Thistle

Ans. to L. O., Montezuma County, Colo.:

The Canada thistle is a perrenial plant and propagates itself by seed and by its underground parts. To keep the plant from going to seed is not enough. You must cut off the young plants before they get up very high and keep cutting them off, if you wish to eradicate this weed. If you have the true Canadian thistle you will find that the roots branch out and spread in all directions and go to any depth, from a few inches to several feet, this depending on the character of your soil. Buds may form from any point along the root system and send plants thru the ground. While it takes the seeds to spread it from farm to farm, its spread from a small to a larger patch is accomplished thru the roots. Having that in mind, you will see the necessity for keeping after it to prevent it from sending top growth from the spreading roots. By continually cutting off this new growth you will finally succeed in killing the plants, as this top growth serves in much the same capacity for the plant as the lungs do for animals. When you cut off this growth you shut off the air and the roots will die. Where the area is a large one, it is best to let the ground lie fallow for one season. Plow in spring and then go over the ground frequently with a disk; at first once or twice a week, but later in the season perhaps once in two weeks will be sufficient to keep down growth. The next season plant this ground in a row crop that can be frequently cultivated and then follow the cultivator with hand hoeing. Remember that any top growth that gets a start of more than a few inches, if left alive, will make it harder for you later on. Keep everlastingly at it. There is no easy road to success in handling the Canada thistle, but no reason why you should not be able to get rid of it in two or perhaps three seasons at most.

Political Questions

T. M. R., Arapahoe County, Colo.:

In answer to your question No. 1: Is it necessary in a newly settled section of the country to have a whole township re-surveyed before there can be any roads declared opened on section lines?

It is not necessary, unless there is doubt as to the accuracy of the original survey.

In answer to question No. 2: What procedure is necessary for an independent candidate for state office to have his name placed on the ticket?

Such candidate must file with the secretary of state not later than 30 days before the date of election, a petition containing the signatures of not less than 300 electors who voted at the last previous state election, but none of whom voted for any person who was a candidate for that office in the primary election.

You will note from this that such petition should not be circulated before the date of the primary election, September 10th, as no one voting at such election for any candidate for the office in question, is eligible to sign the petition of the independent candidate.

Smutty Corn as Silage

My corn is badly infected by smut. I intend to cut it for silage. Is it safe to feed and will the smut hurt the silage in any way?—J. W. H., Yuma county, Colo.

Corn smut will not be noticed in your silage. Experiments conducted by the Bureau of Animal Industry of the United States Department of Agriculture with heifers that were fed corn smut showed no harmful effects. "It is reasonable to conclude," says Henry's Feeds and Feeding, "that corn smut is generally harmless to cattle, tho animals becoming fond of it and eating inordinately may suffer harm." The latter opinion is based on Wisconsin experiments in which a cow, fed one peck of corn smut daily, thrived on it and was growing fat, when she suddenly sickened and died. There is, however, no record of damage by smutty corn after it has been ensiled.

No specific methods of control for corn smut are known. Crop rotation is the only preventive, continuous cropping of the land to corn increasing the losses from smut.

A MAGNIFYING GLASS reveals the tiny pores and seams in an axle. These rough places are the main cause for friction. Use

MICA Axle Grease

on your axle and prevent friction. Made of the finest grease stock and powdered mica. It fills the pores and gives the axle a bright, hard coating. Does not gum or stick. Sold by most dealers in 1 and 3 pound lithographed tins.

THE CONTINENTAL OIL CO.
(A Colorado Corporation)
Denver Pueblo Sa'l Lake City
Cheyenne Butte Albuquerque Boise

COLORADO STATE FAIR
Pueblo, Colorado
Sept 23 TO 28
Monstrous Government Exhibit
BATTLESHIPS, DREADNOUGHTS, DESTROYERS, CRUISERS
All the Munitions of War Used by Our Boys "Over There"
YOU Are a stockholder in this great State Exposition. Your attendance will pay you rich dividends. Come and draw them. One and one-half fare on all railroads.

Back of The Big Crop

Avery Tractors Helped to Raise It
Avery Threshers Helped to Save It

THE crop this year has been a big one. It would not have been possible had it not been for modern motor farming machinery. Avery Tractors supplied a large amount of the power back of this big national crop. Avery Tractors and Plows turned thousands of acres of ground, prepared the seed bed and planted and harvested the grain crops. Avery Motor Cultivators planted and cultivated thousands of acres of corn, cotton and other row crops. Avery Separators threshed and saved millions of bushels of grain.

An Averyized Farm Means Success

Tens of thousands of Avery machines are in successful operation throughout the world. There is a size Avery Tractor for every size farm, an Avery Plow for every size Tractor and an Avery Thresher for every size run. With one of these outfits in the size you need and an Avery Motor Cultivator, your farm power requirements are taken care of.

Motor Farming Machinery Specialists

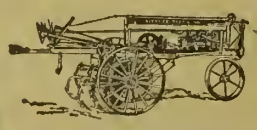
The Avery Company are motor farming machinery specialists. Avery machines are built complete in the three big Avery factories and backed by prompt and permanent service through the Avery Branch Houses and Distributors covering every State in the Union and over 60 Foreign Countries.

When you get an Avery, you get a Tractor with renewable inner cylinder walls, adjustable crankshaft boxes, patented sliding frame, patented gasifiers that turn kerosene or distillate into gas, and a tractor that you can attach instantaneously to any machine, either for belt driving or pulling at the drawbar—the coupler is automatic and the belt pulley is always in place.

All the special features in Avery Tractors as well as in Avery Threshers, Motor Cultivators and Plows are shown in big free Avery Motor Farming Catalog. See nearest Avery Dealer or write direct for catalog.

AVERY COMPANY, 4119 Iowa Street, Peoria, Ill.

Avery Machinery Co., Distributors, Denver, Colo.

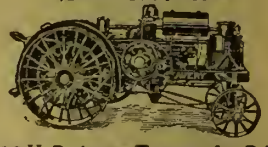

Avery Motor Cultivator

Light and Heavy Tractor Plows for all size Tractors

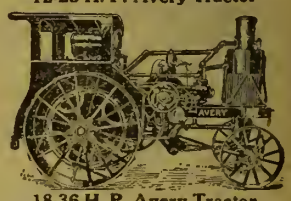
There's a size Avery Thresher for every size run

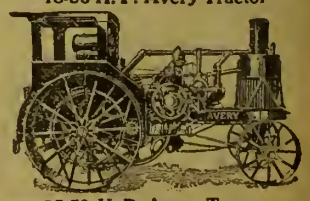
AVERY
Motor Farming, Threshing and Road Building Machinery

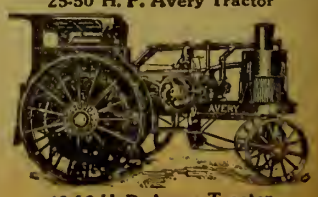
5-10 H.P. Avery Tractor $550 F. O. B. Peoria


8-16 H. P. Avery Tractor, for Price Write Us Direct. Fully Warranted

12-25 H. P. Avery Tractor


18-36 H. P. Avery Tractor


25-50 H. P. Avery Tractor


40-80 H. P. Avery Tractor

Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

For Greater Cheese Industry

New regulations lately issued by the U. S. Food Administration provide for the grading and sale of foreign types of cheese of American manufacture on a basis of actual cost plus a reasonable profit. The regulations are expected to result in market prices for the different varieties of cheese more nearly in keeping with their relative values than heretofore and to stimulate the nation's cheese-making industry, especially in regard to some foreign types of chees.

In its conferences with producers and cheese makers, the Food Administration learned that milk used in certain varieties of cheese was paid for at a lower rate than practically the same quality of milk used in other varieties. Other inequalities resulting from custom likewise appeared during the discussions.

The regulations adopted and now in force are in addition to those recently promulgated affecting the American or Cheddar cheese industry and include such foreign types as Swiss, Brick, Limburger and Munster. There appears to be no logical reason why more extended manufacture of all of these types cannot be fostered in this country, thus providing a plentiful variety to satisfy every taste and at the same time furnishing suitable outlets for surplus milk during seasons of heavy production.

Big Holstein Sale

The famous Avoca Lodge Holstein herd of Donley & Simpson is on the market. The dispersal sale at which 120 head of purebred Holsteins, many of them of record breaking performance, are to be offered at auction is fixed for Wednesday and Thursday, October 9 and 10. The sale will start at 9 a. m. on the 9th. On the forenoon of the second day there will be sold, in addition to cattle, the horses, mules, harness, implements and farm equipment of all kinds. It is announced that the farm itself also is for sale.

Dairy farmers are interested in these Holsteins, as this herd is one of the finest west of the Missouri river. One hundred females and 20 bulls are to be offered, including the famous herd header, Korndyke Pietertje Colantha. This bull has ten A. R. O. daughters with records up to 24½ lbs. of butter in seven days, none of them over three years old. He is a son of Pontiac Korndyke and his dam is Colantha Pietertje, the first cow that ever had two daughters under five years that each made 30 pounds of butter in seven days.

Donley & Simpson make the claim that this will be the best herd individually as to size and conformation ever sold in a sale ring in the entire West, and a look at the cows and their records will substantiate this claim. The herd is too well known in the show ring to need any comment on that point; everybody attending the National Western is familiar with the animals that have been winners at recent shows. Full particulars about the sale are given in an advertisement in this issue. The farm is located nine miles southwest of Denver.

Fremont County Farm Bureau Works by the Card

(Continued from Page 5)

such side industry as hog or poultry raising, or dairying, and these are the things that the Fremont County Farm Bureau will undertake to push in the immediate neighborhood of Canon City. Incidental to fruit growing there is the garden truck industry, which is flourishing by reason of a good canning plant that absorbs the surplus of both fruits and vegetables, and is this season working on government contracts.

The outlying sections of the county have general farming problems, such as silo building for dairy development, dry land farming on the mesas and hay ranching in the mountain valleys. As pointed out by State Leader Lovett, it is the business of the Farm Bureau to see that all farming, the county over, is put on a more prosperous basis; to take the place in the rural districts that the commercial organization takes in town. It is to the interest of the whole county, he pointed out, to see that a new comer in the dry land districts succeeds and the dry land farmer, in turn, is affected by the success or failure of the man on the irrigated fruit or vegetable tract. If the farmers of the entire county share responsibility for and put their best thought into the solution of problems arising in its various sections, they will be able to advance the county agriculturally, and all will benefit proportionately.—A. T. S.

Stop Cream Waste!

$20 more profit per cow every year is the *average* gain of farmers using Viking Separators. Many do far better than that. Proved by carefully kept records of thousands of Vikings.

Don't let the valuable butter-fat dollars slip away in the skim milk through ordinary separators. Get *all* the butter fat that is in the milk with a

VIKING CREAM SEPARATOR

Guaranteed to skim to three one-hundredths of one per cent! No separator at any price gets a higher percentage of cream. Greater capacity than others of equal rating. Mechanically superior. Easy to operate (starts at a touch on the handle). Simple in construction and easy to clean. Lowest in price because it is made in the *largest cream separator factory in the world.* Guaranteed for a lifetime. More than one million in use, in all countries of the world. Look up the *Viking* dealer and investigate. The *Viking* is a money maker for you.

Send For Two Free Books

Not advertising alone but the book, "Making the Dairy Cow Pay," is full of profit-making pointers for dairymen.

Swedish Separator Co.
Dept. BX 507 S. Wells St.
Chicago, Ill.

Only $2 DOWN ONE YEAR TO PAY

$38 Buys the New Butterfly Junior No. 2½. Light running, easy cleaning, close skimming, durable. Guaranteed a lifetime against defects in material and workmanship. Made also in four larger sizes up to No. 8 shown here. Earns its own cost and more by what it saves in cream. Postal brings Free catalog-folder and "direct-from-factory" offer. Buy from the manufacturer and save money. 125,000 now in use

30 DAYS' FREE TRIAL

ALBAUGH-DOVER CO., 2129 Marshall Blvd., CHICAGO

IMPROVED CALF DEHORNER

Every farmer and stockman should be the owner of the Improved Calf Dehorner. By dehorning your calves the value of each is increased at least five dollars. Price of dehorner prepaid is four dollars. I refer you by permission to Stock Growers National Bank, Cheyenne, Wyo.

WILLIAM BOYCE

P. O. Address 712 E. 20, Cheyenne, Wyo.

Lily and Primrose

NEVER buy a cream separator in a hurry. Your reason for buying is not so much to get a cream separator, as *to get all the cream fr your milk, all the time.* It takes time to pick that kind of a machine out of the many on the market.

Send to reputable firms for catalogues, and study them carefully. See which machine requires the fewest and simplest adjustments; which has the best oiling system; which is most sanitary and most easily cleaned; which is so well made that it will undoubtedly do good work for a long time. Go into details, and pick the best two or three of the lot.

Then ask for skimming demonstrations to determine how little cream is left in the skim milk. This is important, because the wrong machine can waste more cream than it is worth, while the right one will put money in your pocket every time you use it.

When you are through you will find that you have bought a **Lily** or a **Primrose Cream Separator** because the **Lily** and **Primrose** will prove to be first on all these counts. We will send catalogues on request, leaving the final decision to your judgment.

International Harvester Company of America
(Incorporated)

Billings, Mont. Crawford, Neb. Denver, Colo. Helena, Mont. Los Angeles, Cal. Portland, Ore. Salt Lake City, Utah San Francisco, Cal. Spokane, Wash.

Save $4.00 to $6.00 Per Ton on Alfalfa

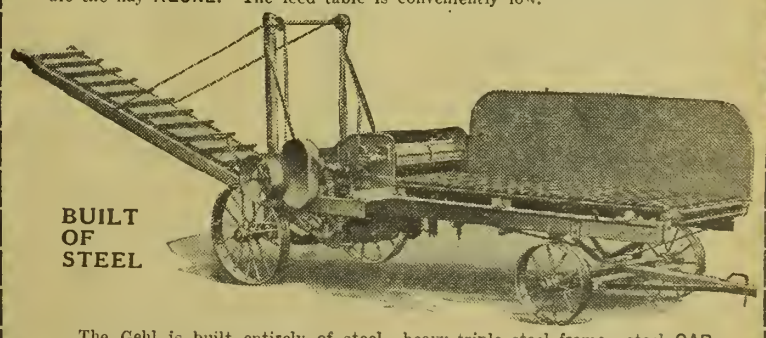
Feeding alfalfa hay to your stock means a loss of 10% to 30% because of unavoidable waste. By cutting alfalfa into MEAL, or CHOP, you produce a feed fully equal to bran, which can be fed to your cows, horses, hogs, sheep and poultry without waste.

Alfalfa CHOP means a gain of $4.00 to $6.00 per ton if sold or if fed to your stock, instead of alfalfa hay. The CHOP requires less than half the storage space and it can be cut for less than the cost of baling. Your alfalfa problem is solved by

THE GEHL ALFALFA CUTTER

The Gehl cutter makes a CHOP of even lengths out of the alfalfa leaves and stems. It does not shred, grind or crush the alfalfa into the undesirable condition of fibre and dust, which are considered objectionable by dairymen and feeders.

The Gehl cutter has a large capacity, due to the construction of the knife-head, cutting screen and big wide throat. The special construction of the feeder and the large oscillating compression rollers enable the machine to handle the hay ALONE. The feed table is conveniently low.



BUILT OF STEEL

The Gehl is built entirely of steel—heavy triple steel frame—steel CARRIER OR BLOWER—double bearings on all gears; these spell DURABILITY and DEPENDABILITY.

Equipment is furnished as required—BLOWER OR CARRIER, attachment for mixing with molasses and other feeds and feeding platform. At a small cost we will furnish an attachment which will make YOUR Gehl or Silberzahn ensilage cutter an alfalfa cutter.

WRITE FOR ILLUSTRATED CIRCULAR and sample of CHOP—or let us know about your requirements. Complete plans will be furnished, without obligation, at your request.

GEHL BROS. MFG. CO.

Dept. 254 West Bend, Wis.

DUROC-JERSEYS

We have the finest crop of Duroc-Jersey pigs that we have had in a number of years. They are sired by a son of Orion Cherry King, a grandson of Orion Cherry King, who is by a Grand Champion boar at National Swine Show two years ago, and by a boar of Golden Model breeding. We can give you as good a selection as can be gotten in the West. Write us your wants.

COLORADO AGRICULTURAL COLLEGE
Animal Husbandry Department Fort Collins, Colorado

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Please tell me about how high I ought to build my poultry house. I want to give the fowls plenty of room, but am building of lumber and the cost is terrific, so I don't want to use any more than I have to. If you can give me about the dimensions that will be most satisfactory and at the same time economical, I will appreciate it.—J. L. S., Wyoming.

The lower a house can be made, the better for the fowls. A hen house two or three feet high would be ideal for the hens, but of course would not be convenient for the caretaker, but a house should never be built higher than is necessary for head room. Poultry houses eight or ten feet high are very cold in winter and are needlessly expensive. The house should be as wide as possible, consistent with the length. The wider the house the farther the fowls will be from the opening when on the roost and the larger the opening may be made during cold weather. If possible, light should be admitted from at least two sides of the house. In scratching for grain, hens face the light and heap up the litter in dark corners. Where the house faces the south, which is usually most satisfactory, and a platform is built under the roosts against the north wall, a window under this platform will prove very satisfactory. Light from only one side, where the building is 12 feet or more wide, unless the front is high and largely open, is not sufficient on stormy days. Glass in the windows is not necessary except on the windward sides of the house, for the curtains or shutters used as covering during the night may be raised during the day. Too much opening for fresh air may be as bad as too little. If the cold admitted causes suffering, harm is being done. The amount of air should be regulated by experience, which is the best teacher.

Cleaning out the house is a part of the poultry business and can be made less irksome if wheeling instead of carrying is practiced. The doors should be wide enough to admit a wheelbarrow or cart. Covering the platform under the roosts with sand or with litter from the floor helps to make cleaning easier. By placing the feed hoppers, water dish, and nests on platforms or shelves along the wall, the entire floor is left clear for the use of the fowls on stormy days. Clean straw covering the floor, in which to scatter grain, will induce plenty of exercise.

Feeding Young Turkeys

Answer to W. R. P., Morgan county, Colo.:

In regard to the amount of feed necessary for young turkeys, that is something that I am unable to tell you, as much depends upon circumstances, whether or not your turkeys have range, whether they are confined in small or large lots; the age and size, etc., have very much to do with it. The rule in feeding, whether in crates or in pens or on the range, when fattening is the object, is to give all the fowls will clean up at a time, feeding often. It is sometimes dangerous to overfeed, but fowls should never be limited as to the amount they will clean up. A good many turkey raisers feed straight corn with water for drinking; others feed both corn and a mash, the mash being mixed with milk. If your turkeys have free range and you only want to keep them in good condition until fattening time, we would suggest that you feed but once a day and that to be at night, giving them all they will clean up in fifteen or twenty minutes. If they do not have free range it might be a good plan to have things so arranged that they will need to scratch and hunt for much of their feed. Turkeys are naturally rovers and need exercise to keep in good condition.

Ducks May Be Poisoned

Please tell me what is wrong with my ducks. I hatched 23 under hens and 27 later in an incubator. First hatch is 10 weeks old and smaller ones are about 5 weeks old. We feed them on boiled potatoes and corn meal baked in bread and soaked in water. Older ones don't get the bread now—just corn chop and potatoes. They have a large lake to swim in and plenty of grass. The little ones were just fine until about 10 days old, when they began to die. At first they get cold and sleepy and fret all the time; soon won't move and seem to bloat before they die. After we turned them on the water they were all right for a while, but now most of the 15 that are left of the youngest ones are affected. They seem chilly and walk humped up with heads drawn down on shoulders. Do you think it is too high for them? Am between 7,000 and 8,000 feet.—Mrs. B. R., Chaffee county, Colo.

The trouble you are having with your ducks is certainly beyond my comprehension. It is almost impossible to name a disease by any possible description, so I am asking you to send a couple of cases by express prepaid to Dr. I. E. Newsom, Veterinary Department, Fort Collins, Colorado. It is more than likely that by a careful post-mortem examination the trouble can be determined. To me it sounds like a case of poisoning, and not like any of the well-known poultry diseases.

Comment by Farmer Putnam

(Continued from Page 9)

plants a tree he is buildin' a home fur birds that comes many years after he's gone to bird heaven. Us humans wants to enjoy all the fruits of our own labors and we seldom provide anythin' fur future generations.

Me and Mr. Morrill went over to Elliott's windbreak to see what was the matter with his trees that they didn't grow no better, and we found out that he didn't have the right kind. He ordered some from the state that does well in this climate and will build up the windbreak with them. He's got it on the northwest side of the farm buildings, so's to ketch the driftin' snow in winter. He showed us a weed cutter that he rigged up on his bean harvester. This ketches the weeds and cuts 'em off just under the ground and it works fine, exceptin' on some Rooshian thistles that has a spread of more'n three feet. Nearly all them farmers has got the thistle bad and I reckon somethin' has got to be done soon or we won't git any more good crops on the plains. The thisties sucks all the moister outen the ground. They come up right after wheat is cut in summer and before winter the ground is dried out ag'in. Then you kin see 'em in the corn fields and in the beans, and on the summer fallow, fightin' with crops fur existence and winnin' out if the farmer gits rushed with other work and cain't keep 'em down.

The trouble is that they is so many of them Rooshian thistles that everybody on the plains gits used to seein' 'em and they dont attract as much attention as they should. We've got to thinkin' that they has alius been thar, but that ain't so. They was brot over from Rooshia with wheat seed by some of the early Mennonite settlers on the plains and now they uses up about one-third to one-half of the moister that's intended fur crops. Some of the farmers cuts 'em fur hay, but durn me if I'd eat it, if I was a cow; it's full of stickers and hard as tree bark, if it ain't cut just at the right time, and even if it is, it's mighty poor feed. If we try to harvest the thistles fur feed we git to thinkin' that they're intended fur that purpose and we'll quit fightin'. I'm fur makin' a law that'll run 'em out of the country and I was tellin' that to one of the farmers at the Wolf creek picnick and he sez: "All right, if you git that kind of a law passed I'm goin' to see that they make you the Chief Thistle Killer and I'll guarantee that you'll be purty durn busy."

I met lots of my old friends, includin' Mr. and Mrs. McCullough, Mr. Hensel, Mr. Edelen, Mr. and Mrs. Michel and their darter Louise, who is club leader fur some of Mr. Groom's boys and gals; and Mr. and Mrs. Elliott and Mr. Davidson and other farmers and candidates. The grove was lousy with candidates, but none of 'em made speeches. They just gumshoed around among the farmers, and I noticed that nobody was gittin' very much excited over county politics; we got too many other things to think about. With our boys runnin' the Huns back to the Rhine and our crops to get under cover so's we kin feed them boys, why we don't care much who's county commissioner, or clerk, or assessor. We figger we got just about so much taxes to pay anyhow and so many promises of good roads comin' to us, that it won't matter much what party is in power.

THOMAS JEFFERSON PUTNAM.

We are giving our work, our time and our money, but "they" are giving their lives.

Give your neighbor a lift—this war is a single front under a single command—what is anybody's trouble is everybody's trouble.

Dr. LeGear's Poultry Powder

FOOD WILL WIN THE WAR-PRODUCE IT.

Shortens the moult!

Long moulting weakens hens and *loses eggs*. Act promptly *now* and hasten Nature's course. Dr. LeGear's Poultry Powder positively will cut down the time required for moulting, strengthen hens' systems, and help you to get early layers, and

Make more Egg-Money this winter

Experiment Station tests and Dr. LeGear's years of actual practice, show that hens *need* a daily tonic during the moult. It gets them through the moult more quickly, counteracts the strain of moulting, and puts them in good condition to lay.

Dr. LeGear's Poultry Powder tones up a hen's system, improves digestion, produces a greater proportion of flesh and feathers from the feed, and stimulates the egg-producing organs. It is my own prescription, used successfully during twenty-six years of veterinary practice and poultry raising. Dr. LeGear's Poultry Powder is

Guaranteed to produce results

Buy a package from your dealer. If you do not believe that it has benefited your poultry, and made more profits for you, I authorize the dealer to refund your money.

Dr. LeGear's Stock Powders produce perfect digestion, drive out worms, increase growth and production.

Dr. LeGear's Antiseptic Healing Powder cleanses, drys and heals sores and cuts quickly. Handy to use, in sifter top cans.

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Dr. L. D. LeGear, V. S. (In Surgeon's Robe) Graduate of Ontario Veterinary College (Toronto, Can.) 1892. Nationally famous specialist in treatment of stock and poultry. 26 years' actual veterinary practice.

Free sample—ask your dealer

Dr. LeGear's Remedies are sold by 40,000 of the best dealers—never by peddlers. Ask your dealer today for liberal *free sample* package of Dr. LeGear's Stock Powders or Dr. LeGear's Poultry Powder, and get a free copy of Dr. LeGear's Stock and Poultry Book. If your dealer hasn't the samples and books, ask him to write us for them. We will supply him promptly.

Dr. L. D. LeGear Medicine Co., 757 Howard St., St. Louis, Mo.

Farm Home Department

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

"Cookery means the knowledge of Medea and of Circe and of Helen and of the Queen of Sheba. It means the economy of your grandmothers and the science of the modern chemist; it means much testing and no wasting; it means English thoroness and French art and Arabian hospitality."—Ruskin.

Use of Apple Syrup

Apple syrup made from apple juice contains about 60 per cent sugar. A gallon of apple syrup made from seven gallons of apple juice has approximately the sweetening value of three to four pounds of cane sugar. This is too much sugar to let go to waste while the shortage is on. Full directions for making fruit syrups can be secured from your agricultural experiment station or state directors of home economics.

Syrup from apples, pears and grapes can be used in cooking and on the table to replace sugar to a great extent. Try it with baked apples or pears. A little cinnamon adds to the flavor. This syrup is suitable for use on hot cakes and in making gingerbread. With ginger and butter it makes flavory hot sauce for puddings. When the family demands sweets the inventive housekeeper will discover many other uses for her fruit syrups.

Cider Jelly—Sweet cider jelly can be made without sugar. Boil apple syrup until the jelling point is reached. This jelly makes an excellent relish with meat.

Fruit Butter—Fruit butters can be made without sugar. Add one quart of apple syrup or grape syrup to one quart of fruit pulp. Boil down to a thick buttery consistency and seal hot. This is a tart butter and an excellent relish. If a sweet butter is wanted, add sugar, sorghum or molasses when these are available, reheat and seal.

If there is no fruit syrup on hand, proceed as follows in making fruit butter: Cook peeled and pitted fruit in enough fruit juice to prevent scorching; press thru a sieve; to each quart of this pulp add three quarts of apple or grape juice, and to each four quarts of the mixture add two teaspoons of ground cinnamon and one of ground cloves and proceed as above.

Fruit Preserved in Fruit Juice—Any fruits may be preserved in grape juice, but apples, pears and sweet plums are particularly good.

Boil 6 quarts of grape juice in an open preserving kettle, until it is reduced to 4 quarts. Have the fruit washed and pared, and, if apples or pears, quartered and cored. Put the prepared fruit into a preserving kettle and cover generously with the boiled grape juice. Boil gently until the fruit is clear and tender, then put into sterilized jars.

For preserving in cider, prepare apples and pears in the same way, cover with boiled cider (boiled until reduced one-half) and cook slowly until clear and tender.

Spiced Cucumber Salad

Vegetables

5 pounds sliced cucumbers (about 2 dozen)
½ cup chopped onion
2 cups chopped sweet red pepper
1 cup chopped sweet green pepper

Spiced Vinegar

1 quart vinegar
½ cup sugar
1 tablespoon each salt, powdered ginger, and mustard seed
2 tablespoons celery seed (crushed)
1 tablespoon each of whole pepper, cloves, cinnamon, and allspice

Mix the cucumber and onion and sprinkle alternate layers with salt, using three-fourth cup for whole. Let stand over night. Put peppers into brine over night. Next morning drain vegetables and freshen for 1 to 2 hours in clear water.

Put all whole spices into cheesecloth bag except the celery seed and mustard seed, which are put in loose. Add spices to the vinegar and boil for 5 minutes. Drain the vegetables well and pour the hot spiced vinegar over them. Let stand 24 hours. Pack, distributing the pepper well and flattening some of the cucumber slices against the face of each jar. Fill jars with same vinegar and paddle well to remove all bubbles. Garnish with strips of red pepper or pieces of spice. Process 12-ounce or pint jar for 15 minutes at 180 degrees F. When made for market it is necesary to use white vinegar for this product.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

1644—A Serviceable Garment. Child's rompers, with sleeve in either of two lengths. Percalc, galatea, gingham, drill, linen, flannelette and crepe are best for this style. The aleeve may be finished at wrist length with a band cuff or in elbow length with a turnback cuff. The neck may have the neat collar or be cut in low outline as illustrated. Sizes 1, 2, 3, 4 and 5 cashmere, serge, albatross, satin, silk and for all wash fabrics. The front is closed over a stay, with lacing or buttons. The sleeve may be in wrist or elbow length. Cut in sizes 2, 4, 6 and 8 years. Size 6 requires 3 yards of 36-inch material.

2544—Waist. 2534—Skirt. Stylish and Comfortable. May he developed from waist pattern 2544 and skirt 2534. The panels on the skirt may be omitted. The waist is lovely for crepe, voile, batiste, linen, dimity, satin and silk. The skirt may be of Jersey cloth, serge, satin, broadcloth, suiting, velvet or taffeta. The waiat is cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 2⅛ yards of 36-inch material. The skirt ia cut in sizes 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 requires 3¾ yards of 44-inch material. The skirt measures 2¼ yards at the foot. This calla for two aeparatc patterns.

2543—Simplicity and grace oombined. The waist closes at the left sidc of the vest, under years. Requires 3 yards of 27-inch material for a 4-year size.

2338—Simple and Easy to Develop. Good for the hroad collar. The two-piece skirt is finished with a deep hem and a tuck at knee length. The sleeve may be in wrist or elbow length, with plain or turnback cuff for the wrist length sleeve. Cut in sizes 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 requires 5⅝ yards of 44-inch material. The skirt measures about 2⅛ yards at the foot.

Grazing and Fence Law

Ans. to M. T., Bent County, Colo.:

We are inclosing copy of the lawful Colorado fence, which will give you information on the point you desire. If your neighbor has a lawful fence and your cattle break thru you are responsible for any damage they may inflict. At the last session of the legislature a law was passed which forbids the grazing of animals on the public highway, or in any road or lane that is fenced on both sides with a legal fence. This does not prohibit driving cattle thru highways when a herder is in charge.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs," and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4166 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar bank guarantees if you are not absolutely satisfied, your dollar will be returned on request, and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—Adv.

Why Hens Won't Lay

P. J. Kelly, the Minnesota Poultry Expert, 92 Kelly Bldg., Minneapolis, Minn., has published a book, "The Tale of a Lazy Hen." It tells why the hens won't lay and how to make them lay every day. Mr. Kelly will mail the book free to anyone who will write him.

Raise Hares for Us

IMMENSE PROFITS easily and quickly made. We furnish stock and pay you $2.00 each and expressage when three months old. Contracts, booklet and full information 10c. Nothing free. Address

Dept. 24, THORSON RABBIT CO. Aurora, Colo.

Shorten the Molt—Hurry the Pullets

Get your birds to laying early. Keep them at it all winter. Make bigger profits than ever before. Right now, *today*, you should use

Pratts Poultry Regulator

The Guaranteed Poultry Tonic and Conditioner

It shortens the molting period by weeks, prevents loss during this critical period, makes the hens lay early and often. It brings the pullets to early laying maturity, strengthens and invigorates them for a hard winter's work.

Pratts Poultry Regulator will make *your* layers begin profitable egg-production weeks earlier than they otherwise would, keep them laying heavily and steadily during the period of high prices, protect their health, enable them to earn big money for you. *Make the test at our risk.*

Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—"Your money back if YOU are not satisfied"—the guarantee that has stood for nearly 50 years.

Write for our New Poultry Book—FREE

PRATT FOOD COMPANY

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Pratts

$25 HOLSTEINS $25

Five weeks old 15-16 pure, mostly white, $25 crated.
Two months old, $40.
Registered Bulls, two months old, best quality, $70.
Two-year-old springers, $125.
Cows crated, $150. Car lots write us.
Buy the best, it pays in the end.

Dr. J. A. Roberts Stock Farms
Oconomowoc, Wis.

DRAFT HORSES AND BEEF CATTLE

I can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

Bean Growers Get Busy

New life will be infused into the Colorado State Bean Growers' association at a general meeting of the organization, to be held in Denver probably early in October. Growers who have been relying upon the government to take over the 1918 crop of pintos are doomed to disappointment. There is no intention on the part of the United States Food Administration to repeat the good work done last spring, when approximately 60,000,000 pounds of beans were bought in Colorado and New Mexico for general distribution in the eastern markets, in order to stabilize food prices in the East and encourage a new western industry. As far as known, the grower will be on his own resources this season, except that the government will make large purchases for army use and, probably, there will also be an outlet for some of the pintos to the civilian trade in European countries. All of this, however, will have to be handled thru regular market channels and not, as was the case last spring, thru the United States Grain Corporation.

At a poorly attended meeting of the association held in Denver late in August, F. S. Ruggles and T. Wade, representatives of the United States Bureau of Markets from Washington, offered to furnish a plan of co-operative marketing, if the Colorado growers desired it. Action on the proposition was deferred until the growers thruout the state could be made acquainted with details. This is being done at present by Messrs. Ruggles and Wade, who are addressing meetings of county growers and assisting in organizing these units as a part of the present state organization.

The association has declared in favor of joint inspection service to be established at Denver, growers, jobbers and the Colorado Grain Exchange co-operating. A joint committee from the three bodies is to decide on details. The beans are to be inspected on sample, this inspection to be official. The Rocky Mountain Bean Jobbers' association grades, which were in effect for the 1917 crop, were again adopted.

It was decided to increase the membership fee to $1.50 per year, fifty cents to be retained by the local unit of organization. A resolution was adopted asking the New Mexico growers to co-operate with the Colorado association in improving the growing and marketing of the pinto bean crop.

Windbreaks the Final Solution of Soil Blowing

(Continued from Page 3)

off of young seedlings, especially alfalfa, almost as if it had been mowed off close to the ground. This can be prevented on new land by leaving strips of prairie grass alternated with those planted to crop.

After the alfalfa is established it will perform the same service as the grass, especially if not cut too close and then the grass strips may be planted to something else.

There are two phases to the blowing problem, one in which your own soil blows and the other in which your neighbor's dust does the damage. There is no remedy for sand or soil blowing from a distance and burying your crops except windbreaks, and when these are generally planted the nuisance will cease. The blowing out of fall crops may be almost entirely obviated by planting them early, so that they cover the ground before the blowing commences. Anything which blocks the force of the wind and causes backwinds and currents becomes automatically a snow trap. This principle is well understood by the railroads who use snow fences on the north side of every deep cut to drop the snow before it reaches the track.

Not only in the regions where blowing is a problem, but everywhere in the dry farming country are flat mesas, level stretches and smooth hill tops, which never raise a satisfactory crop because the snow blows off. This is easily remedied by plowing or listing back furrows every twenty feet or so across the path of the blizzards.

The following on shelter belts is from a bulletin by State Forester W. J. Morrill of Colorado:

Three or more rows of trees may be considered a shelterbelt, while a single row is a windbreak. A suggested shelterbelt of three rows for eastern Colorado is as follows: Center row, black locust; side rows, Russian olive on one side, and on the south side, Jack pine. Another three row combination is: Center row, honey locust; side row, Russian olive; on the other side row, the shrub, tamerisk.

For a wider shelterbelt, place the most rapid growing trees in the middle row and less rapid growing trees in flanking rows. If moisture permits, as in low land, near streams or arroyas, native cottonwood or black locust in the center, flanked on one side with honey locust and the other side with Jack pine, Rocky Mountain red cedar, wild plum, and finally on the outside rows with tamerisk.

The best direction for shelterbelts and windbreaks in this region is east and west. Shelterbelts of six or more rows will hold the snow within the area devoted to the trees, but a narrow shelterbelt and windbreak will cause snow to drift even as far as a hundred feet from the trees. Consequently attention should be paid to proper location of windbreaks in relation to corrals, barns and home.

An effective windbreak and shelterbelt is one having branches or foliage from close to the ground all the way up. The "roof scheme" for shelter belts given above provides for this. Otherwise shelterbelts should be under planted with trees or shrubbery as the lower branches die off.

Besides the ornamental value of a windbreak, we recognize the comfort and protection it affords to man and beast. There is little doubt that effective windbreaks exert an appreciable beneficial influence on field and orchard crops; transpiration of moisture from the foliage of crops is reduced because of retardation of wind velocity. The beneficial influence of a windbreak extends out about one rod for each foot in height of the windbreak; and the loss in crop production close to the trees is said to be more than regained in increased yields on the whole area protected.

Fourth Liberty Loan

The campaign for the Fourth Liberty Loan begins September 28 and closes October 19. It will be for a larger amount than any of the preceding loans. The American people, therefore, are called upon to raise a larger sum of money in a shorter length of time than ever before. There is need, therefore, for prompt action—prompt and efficient work and prompt and liberal subscriptions.

We have a great inspiration for a great effort. The news from the battle front inspires every American heart, not only with pride and patriotism but with a great incentive to do his or her part. There is no shirking, no shifting of the individual burden, no selfishness by American soldiers in France; there should be none here. We are both supporting the same country and the same cause—our army in one way, ourselves in another. Theirs is the harder part, but at least we can do our part as promptly and loyally and efficiently as they do theirs.

Sheep Pasture Mixture

Answer to P. M., Montrose county, Colo.:

Red clover and alsike clover both bloat sheep very readily, and I would not advise you to put either one in as sheep pasture. Sweet clover bloats only in rare cases. I would advise the use of yellow blossom sweet clover for a pasture mixture. I am enclosing a copy of our formula for pasture mixture which has proved very successful on irrigated lands.—G. E. M.

The maximum price for milk in Rome has been fixed at 18 cents per quart. In 1914 the price was from seven to eight cents per quart.

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

WANT TO HEAR FROM OWNER OF FARM OR fruit ranch for sale. O. O. Mattson, St. Paul, Minn.

WANTED—TO HEAR FROM OWNER OF FARM or unimproved land for sale. O. K. Hawley, Baldwin, Wisconsin.

FOR SALE—ABOUT 25 HIGH GRADE HOLstein cows and heifers, also registered French draft stallion. Bert B. Hooper, Matheson, Colo.

HOMESTEAD LANDS UNDER DITCH, CLOSE to Denver. Timber, coal, finest wheat land. Kanner Land Co., 427 Ernest & Crammer Bldg., Denver, Colo.

I HAVE CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give description, location and cash price. James P. White, New Franklin, Mo.

ATTENTION, LAND SEEKERS—THE FINEST grazing and farming land in the state of Colo., from 20 to 50 miles from Denver. Can be bought at $15 to $25 per acre; good terms. Write us for particulars. The Parker Land & Cattle Co., Parker, Colo.

144 ACRES OF DEEDED LAND LOCATED 8 miles from town, under old established irrigation ditch, not bonded, all fenced, good house, stable for 15 head of horses, good well and cement stock tank, good cement cellar, lays good and good soil. Price $30 per acre. Also 160-acre school lease adjoining the above land at $200. J. R. Anderson, Ft. Morgan, Colo.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—MILKING SHORTHORNS. W. A. Wight, Las Animas, Colo.

FOR SALE—20 HEAD OF SPRINGING, HIGH grade Holstein cows. Wilson Counts, Hasty, Colo.

FOR SALE—REGISTERED HEREFORD BULLS and bred cows. Mrs. Alice Wolfe, Flagler, Colo.

FOR SALE—PURE BRED SHORTHORNS. Bargain if taken soon. R. W. Clark, Fort Collins, Colo.

FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Held, Sterling, Colo.

REGISTERED JERSEY HEIFERS AND BULL calves. Best milk and butter breeding. Prices for quick sale. Jas. S. Taylor, Fowler, Colo.

FOR SALE—10 registered Jersey cows and 2 bulls, also 6 grade cows. These are all extra good ones. Personal interview preferred. O. S. Larson, Fort Morgan, Colo.

FOR SALE—5 REGISTERED HEREFORD bulls, 11-13 months old are left, at $125-$175. All two-year-olds are sold. Good markings and bone. Anxiety fourth breeding. J. O. D. Ranch, Aroya, Colo., on U. P. R. R.

HOGS

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner

SPRING BOARS ALL SOLD, WATCH FOR our bred gilt ad January 15th. September pigs at weaning time. Orange's Panorama, a real herd boar, $100 after November 15th. Barney Bros., Big Type Poland Chinas, Haswell, Colo.

DUROC JERSEY HOGS—THE BIG BONED, large prolific type. Young gilts by Orion Cherry King 15th out of big sows Defender and Coe breeding. We can also sell some extra large bred gilts. Not how cheap, but how good. We would like to have you visit the ranch and see for yourself. All mail orders filled with the proviso, "Money back if not satisfied." J. O. D. Ranch, Aroya, Colo., on U. P. R. R.

REGISTERED DUROCS—I HAVE A FINE LOT of boars and gilts about two months old. They are all sired by my Pathfinder boar and from my best sows. $15, including registration papers and crating. A few registered Tamworths; they are a little older and will cost a little more money, but they are just as fine as grow; also a two-year-old Percheron stallion that is right in every point. Price, $300. Dr. Frederick W. Culver, Longmont, Colo.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

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LUMBER, LATH, MILL WORK. GET OUR direct-to-consumer prices before building. Catalog, plan book free. Contractors Lumber Supply Co., 443 Lumber Exchange, Seattle, Wash.

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SHANKS ORPINGTONS—TRAPNESTED WINter layers, farm raised, state winners. Cocks, cockerels, hens and pullets for sale. Write your wants. A pleased customer or no sale. F. M. Shank, Route 2-A, La Junta, Colo.

HELP WANTED

OPERATIVES WANTED; EXPERIENCE UNnecessary. We instruct you. Travel. Make secret investigations. Salaries, expenses. Hartley Detective Agency, St. Joseph, Mo.

YOU ARE WANTED BY THE U. S. GOVERNment. Thousands positions for men, women and girls. $100 month. Easy work. Experience unnecessary. Write immediately for free list of positions. Franklin Institute, Dept. V 172, Rochester, N. Y.

HOLSTEIN CALVES
Choice, high-grade, beautifully marked heifers or bulls, 5 weeks old, $20.00 crated f. o. b. cars. Write
W. C. KENYON & SONS, Box 39, Elgin, Ill.

DISPERSAL SALE
HOLSTEINS
120 PURE BRED 120
AT THE
Avoca Lodge Farm

Nine miles southwest of Union Station, Denver, Colorado, and one-half mile south of Midway on Morrison Boulevard

Wed.-Thur. Oct. 9-10

Auction Starts at 9 A. M.

100 FEMALES 100

We will sell in this sale 100 females of different ages, which comprises our entire herd.

We know we are right in stating they will be the best herd indivually as to size and conformation ever sold in a sale ring in the entire West—30 cows that will weigh from 1,600 to 2,000 lbs., with records up to 30 lbs. in seven days and up to 126 lbs. in 30 days in cow-testing association work made under ordinary working conditions, and on three milkings a day, cows that have milked 100 lbs. a day and up to 22,000 lbs. in a year.

Our young females are all bred from sires of world's championship breeding. We defy anyone to show a better herd.

The last two seasons in a show ring we have won three times as much money in prizs as any of our competitors. Our breeders' aged herd and our get of sire groups have been undefeated the last two seasons in the show rings.

Fifty of the cows and heifers are bred to our Herd Sire, **Korndyke Pietertje Colantha,** the best individual son of **Pontiac Korndyke.** They all sell.

20 BULLS 20

Included in the sale are our two herd bulls, Senior Sire **Korndyke Pietertje Colantha** No. 96261, a son of **Pontiac Korndyke** No. 25982 and from **Colantha Pietertje,** the only cow in the world that has a 24-months-old daughter with a 30-lb. record, and she also has four A. R. O. daughters, three proven sons and three producing daughters.

Junior Sire **Orchard Grove Ragapple** 190174, a brother of **Ragapple Korndyke 8th,** the greatest bull in the world, and being from a daughter of **Sir Gelsche Walker Segis,** No. 44603, with 40 A. R. O. daughters, including two with records above 38 lbs. of butter in seven days.

A few young bulls, sons of these bulls.

Three young bulls, just ready for service, from our former $10,000.00 herd sire **Buffalo Dirkie Johanna,** who was a brother of **Duchess Skylark Ormsby,** the only cow that ever made 1,500 lbs. of butter in a year. One yearling bull ready for heavy service, by a son of **Maple Crest Pontiac Hartog,** No. 62178, the bull that has six 2-year-old daughters with records that average over 800 lbs. in a year. His dam is a granddaughter of **Pontiac Korndyke,** No. 25982, and this young bull has more cows sired by his direct ancestors with records over 1,000 lbs. in a year than any bull ever owned in the State of Colorado. A show bull individually.

Rose Shiron De Kol and Oberlin Countess Pontiac

Here are two of our best cows. The light-colored cow, Rose Shiron De Kol, just finished making, during the last 17 days in July, 84½ lbs. of butter and gave 1,183 lbs. of milk during that time. The other cow, Oberlin Countess Pontiac, is a daughter of our Herd Sire, Korndyke Pietertje Colantha, and she is from a granddaughter of King of the Pontiacs. Both are show cows and both sell.

SECOND DAY

On the forenoon of the second day of the sale we will sell all our Horses and Mules, consisting of
Five Heavy Draft Geldings.
One Team Mules, weight 2,600.
All Harnesses, Plows, Binder, Mowers, Wagons, Hay Tools and all other Farming Implements. All Grain, Hay and Ensilage and all Household Furniture belonging to the farm.

FARM ALSO FOR SALE

Transportation will be arranged for those desiring it
Starting from 1726 Glenarm St. On morning of Sale Day

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We Have on Hand and For Sale
250 Head Yearling Bulls
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Good Bone, Colors and Markings
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Write or phone us regarding these Bulls. It will be worth your while

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High Class Jerseys and Durocs
"THE WESTERN HOME OF THE MAJESTY'S"

Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the other day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, better get a Majesty bull calf while the getting is good. I have them. Also a few fall boars, splendid good ones, at right prices. I will have something still more interesting to tell you very soon about Majesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

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THE BEST STORE FOR MEN

The Average Man

THINKS OF A DEPARTMENT STORE AS A WOMEN'S STORE EXCLUSIVELY **This is All Wrong**

Because as a matter of fact the up-to-date Department Store has become

The Best and Most Economical Store for Men

Our buyers of men's clothing and haberdashery are skilled experts with lifelong experience in **these lines exclusively.** This makes it safe for you to depend upon The Denver for the best.

WE HAVE YOUR SUIT

And the price is less than you would expect with wool scarce and prices soaring

You are missing something if you are not acquainted with this clothing and our prices

Suits $25 to $65

Overcoats $25 to $115

'Twill be a pleasure to show you the goods—Second Floor

Shotguns and Shotshells *for Shooting Right*

GETTING the bulge on your year's work means a lot—a lot more if you love dog and gun. By getting yourself in trim with the *right* amount and kind of recreation, you will tackle next year's work with more vim.

There is much additional satisfaction in store for you if you buy a Remington UMC Pump Gun or Autoloading Shotgun for your days off this Fall. When your well earned chance comes to bag some game, you will then have in your hands a gun made to shoot *right*. Guns of the same design helped win the Grand Prize, highest of possible honors, "For Modern Firearms and Ammunition," awarded to Remington UMC at the San Francisco Exposition.

The wonderful Wetproof process invented for and exclusively used in the manufacture of Remington UMC Smokeless "Arrow" and "Nitro Club" Steel Lined Shotshells, has been pronounced the greatest advance in shotshell manufacture in a decade. *These shells as now made are the first completely wetproof shells.* Another Remington UMC contribution to shooting *right.*

In *black powder,* buy the old reliable Remington UMC "New Club," now Wetproof sealed at turnover and top wad.

Sold by Hardware and Sporting Goods Dealers in Your Nearest Town

THE REMINGTON ARMS UNION METALLIC CARTRIDGE CO., Inc.

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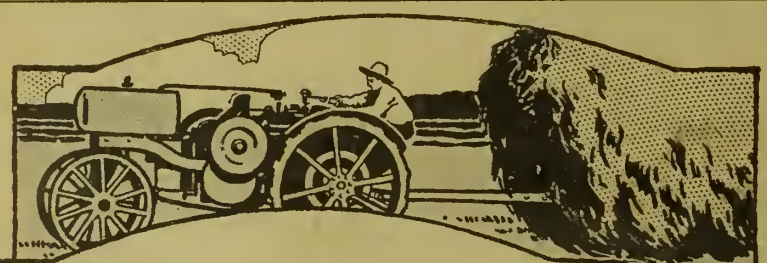
WOOLWORTH BUILDING NEW YORK CITY



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Gas Engine Tractor Oil

—made for the express purpose of lubricating kerosene burning tractor engines. It is recommended by the largest tractor manufacturers.

With your oil tank filled with Stanolind Gas Engine Tractor Oil you will cut down your carbon troubles and find out what your tractor can do when thoroughly and properly lubricated.

Buy from your dealer or our nearest distributing station.

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(A Colorado Corporation)
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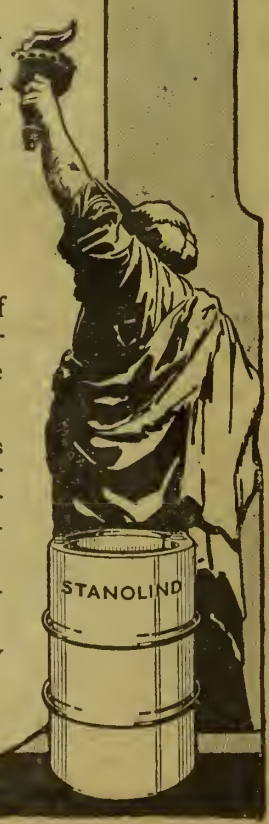
Albuquerque Salt Lake City Cheyenne



Party Line Co-operation

If you are a party line subscriber you can increase greatly the efficiency of your service by observing two practices:

1. Don't lift the receiver from the hook until your telephone bell has stopped ringing.

If the receiver is lifted before the ring is completed, the bell of the other party wire will also ring.

2. Don't answer unless you are sure the call is for you.

When the receiver is lifted the operator is signaled that the party she is calling has answered. If you have answered the wrong ring and then hang up, the operator has no way of knowing but that the connection has been properly completed and, therefore, disconnects. This causes annoyance to the one calling, to the operator who must do her work again and to you who have answered when the ring was not for you.

Make it a practice to count the rings and so co-operate for good service.

The Mountain States Telephone and Telegraph Company

TRAPPED A WOMAN SPY. Commencing in this issue, a thrilling story of German intrigue and American pluck. A tale of war, love, espionage, cunning, and courage.

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OCT 14 1918

WESTERN
Farm Life

Vol. XX Denver, Colorado, October 1, 1918 Semi-Monthly

Forage Corn Is Not Fit For Ensilage

"WHAT a fine crop; I did not know we could raise such corn in Colorado." Yes, we can raise such corn, but it doesn't pay to raise it, because it does not produce grain. This field was photographed in Denver county during August. There were very few ears showing. The corn was grown on rich ground, and was irrigated several times. Professor Robertson of Canada, in talking to an audience of Wisconsin farmers about so-called fodder corn said:

"Such a fodder is mainly a device of a thoughtless farmer to fool his cows into believing they have been fed."

We have started a campaign in Colorado to put a silo on every stock farm. We shall have to put something into these silos other than tall "ensilage" corn if we wish to get value in beef or milk out of them. It pays to grow for ensilage only such corn varieties as will mature grain and to cut that corn when it is well dented and glazed.

Make Your Home Ideal

ADD to the convenience of running water the beauty and luxury of

"Standard" Plumbing Fixtures

And you have an ideal home—one which has conveniences equal to those in the most modern of city dwellings.

These plumbing comforts belong in every home, whether new or remodeled. They are the perfected product of and are backed by the reputation gained through years of experience in manufacture. Their range in design and price will meet your requirements and purse.

Confer with your contracting plumber. Ask about "Standard" Fixtures—which you should demand in order to be certain of maximum service and satisfaction. See that the "Standard" Green and Gold label is on the fixtures you buy. It is your protection. Send for a copy of the book "'Standard' Plumbing Fixtures for the Home."

Standard Sanitary Mfg. Co.
Dept. 236 Pittsburgh, Pa.

Are You still chained to water buckets?

If you were actually chained to water buckets, your escape would be just as hopeless as it is today if you continue carrying water from a distant well or cistern. Thousands of homes have cut loose from this old custom and are enjoying the conveniences afforded through installing a MYERS HYDRO-PNEUMATIC PRIVATE WATER SYSTEM for bath, kitchen, laundry and other purposes. MYERS PUMPS come in many styles and sizes—and meet the requirements of any home. Simply constructed easily installed, they furnish a dependable water supply.

You are interested in these wonderful labor saving pumps, so our Catalog showing all styles should be in your hands. Write for it today and cut out water drudgery. Just address—

140 Orange St.

F. E. MYERS & BRO. ASHLAND, OHIO

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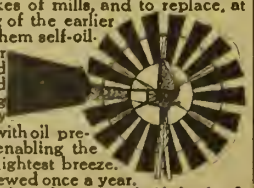
has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load



We make Gasoline Engines, Pumps, Tanks, Water Supply Goods and Steel Frame Saws.

Write AERMOTOR CO., 2500 Twelfth St., Chicago

The Potato Starch Industry

Manufacture of potato starch is an industry now receiving serious consideration by Colorado potato growers, in the effort to fully utilize the crop. Dr. E. P. Sandsten, state horticulturist, during the summer visited potato starch factories in Minnesota, for the purpose of investigating methods of manufacture and cost of process and plants. He recommends that San Luis valley conditions are suitable for the establishment of a starch factory, designating Monte Vista, the chief potato marketing point of the valley, as the possible site. That portion of his report relating to the factories visited and his conclusions after an inspection of the plants, is published herewith. In addition he collected much interesting data regarding cost of starch making that will be available to communities desiring to investigate the matter in detail.

Four factories were visited, as follows: Harris, North Branch, Cambridge and Centre City. These factories are located about fifty miles north of St. Paul in the center of the largest potato-growing district in the state. The soil in this district is a sandy loam and in a high state of cultivation. It is said to be one of the most prosperous farming communities in Minnesota, and if general appearance of well-tilled farms and excellent farm buildings and equipment are indications of prosperity, then the statement is true, for without exception the writer had never seen better buildings and better crops in any state, not excepting the Poudre valley in Colorado.

The factory at Harris was built about ten years ago at a cost of $14,000. Since that time it has been remodeled and additional improvements made in the form of new machinery. It has a capacity of 2,000 bushels per day. The factory closed the day after the writer arrived.

The factory at Cambridge has a capacity of 4,000 bushels for 24 hours' run. It was the largest and best operated factory visited, tho it lacked the pulp drier to take care of this product which at present is wasted. The factory at Centre City is a duplicate of the one at Harris, only a little smaller. It has a capacity of 1,500 bushels per day. From the writer's observation and from the talk with the manager, this factory, while making money, is not operated economically.

The factory at North Branch, while having been constructed over 15 years ago and is over-crowded, was the most economical and efficient factory of the four. Perhaps this is due, in a measure, to the fact that the factory has a pulp drier which takes care of the pulp, and from this by-product considerable profit is derived, as the dry pulp is now selling for from $28 to $30 per ton f. o. b. loading station. * * *

The use of a pulp drier in connection with starch manufacturing is an important item of saving. The drying operation, as explained before, is very simple, and requires no additional power, as this is obtained from the central plant. One man is sufficient to operate the drier—that is, sacking the product and storing it away.

The dried product is shipped to the East, and the factory is obtaining from $28 to $30 a ton f. o. b. loading station. This dried pulp is used in connection with stock feeding and the profit derived from the utilization of the pulp by drying would go a long way toward the paying of the operating expenses of the starch-making plant.

If a starch factory is located in Colorado, I believe it would be to the advantage of the owner of said factory to have a drier installed.

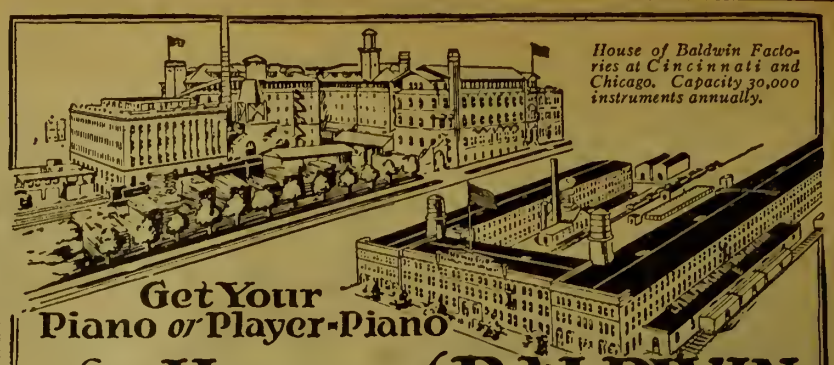
In regard to the cost of a complete factory with drier attachment, I had several figures given, tho they were not definite, due to the fact that all the factories visited had been remodeled and additional machinery installed. The initial cost of these plants, as they are very much alike, both in equipment and in size, was around $14,000. In talking with the managers of these plants, they were of the opinion that a complete factory with modern machinery and equipment would cost around $40,000.

It takes about four months, at least, to construct such a factory, and if we are to build one in Colorado for operations next fall and spring, it is important that the work start at an early date.

There is one point in connection with starch manufacturing that must be taken into consideration in establishing factories in Colorado, and that is the water problem. The water we obtain from the streams, and even from city water works, is not adapted to starch making. In the first place, it is not clean enough, but what is perhaps more important, the temperature of the water is too high. Warm water causes the starch to sour in the process of manufacturing, and a low grade of starch is obtained. On this account, I believe that a factory in the San Luis valley, where artesian water is easily obtainable, and where this water is very cold, would be an ideal place for a factory.

From my investigation, I have come to the conclusion and would recommend to you that we make strenuous efforts to get a factory located at Monte Vista and have it in operation for the next crop.

The Food Minister of France has requisitioned 1918 forage crops. The maximum price for best quality will be $1.00 for 100 pounds and 86 cents for second quality.



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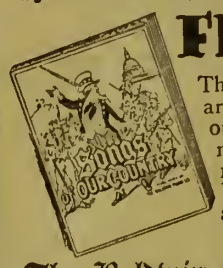
You are sure of getting a dependable instrument. Baldwin-made pianos awarded Grand Prize at Paris and St. Louis. Baldwin factories do not make cheap instruments of doubtful quality.

You get best value at price you pay. Baldwin instruments are made throughout in Baldwin factories. No profits to makers of piano parts. Immense output keeps cost to lowest figure.

Every instrument guaranteed by the factory. Baldwin-made pianos are sold by House of Baldwin dealers practically direct from factory to you. The factory stands behind every instrument. No divided responsibility.

You choose from a complete line. There are Baldwin-made instruments at various prices beginning at the lowest figure for which a dependable piano can be produced up to the very most that money can buy. The line includes the Baldwin, Ellington, Hamilton and Howard Pianos and the Manualo Player-Piano.



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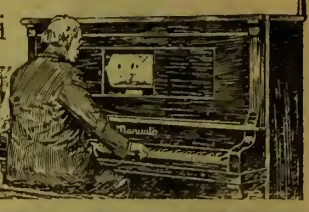
This book contains complete words and music in quartette arrangement of our ten national and patriotic songs. Tear out this advertisement, write your name and address in margin, and send to nearest address below, or mail your request on a postal card. We will send book postpaid and free



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The Better Way

THE FARMER who can get stable manure to spread on his fields this year and who fails or refuses to take care of it and spread it properly, is losing the chance of a lifetime to make his farm pay handsomely. No farmer can possibly raise too much of any of the staple crops in these times. Increased acreage is pretty nearly out of the question; labor and power are too hard to get. There is a better, easier, less expensive way to grow bigger crops. Save stable manure, add phosphate as your soil requires, and spread it in a thin, even coat with a widespreading

Low Corn King, Cloverleaf, or 20th Century Manure Spreader.

Begin right after harvest. With one of these machines, and no additional power or help, you can increase immediate yields, and put your soil in better condition for future crops. They are low, light draft, narrow box machines, each made in three handy sizes—small, medium and large. The entire load is spread in 3 to 5 minutes, in an even coat that extends well beyond the rear wheel tracks. See the machine at the local dealer's place of business—or write us.

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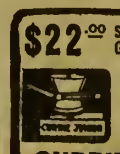
$22.00 Sweep Feed Grinder | $28.00 Galvanized Steel Wind Mill.



We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
610 E. Seventh Street, Topeka, Kansas.

Shipped on Approval

This Five Passenger 35 H. P. car. 116 in. Whl. base. Goodrich 32 x 3 1-2—Delco Ign.—Dyneto Stg. and Ltg. Write at once for particulars of shipment and my 48-page catalog. Agents wanted to drive and demonstrate. Territory open. Prompt shipments. Big money. Cars guaranteed or money back. 1919 cars ready.

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Published Semi-Monthly by The Farm Life Publishing Co., Denver, Colo. 14th and Arapahoe Sts.

Entered at the Denver Postoffice as Second Class Matter

WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, OCTOBER 1, 1918 | Number 19

Something About the Farmers In Our Own Family

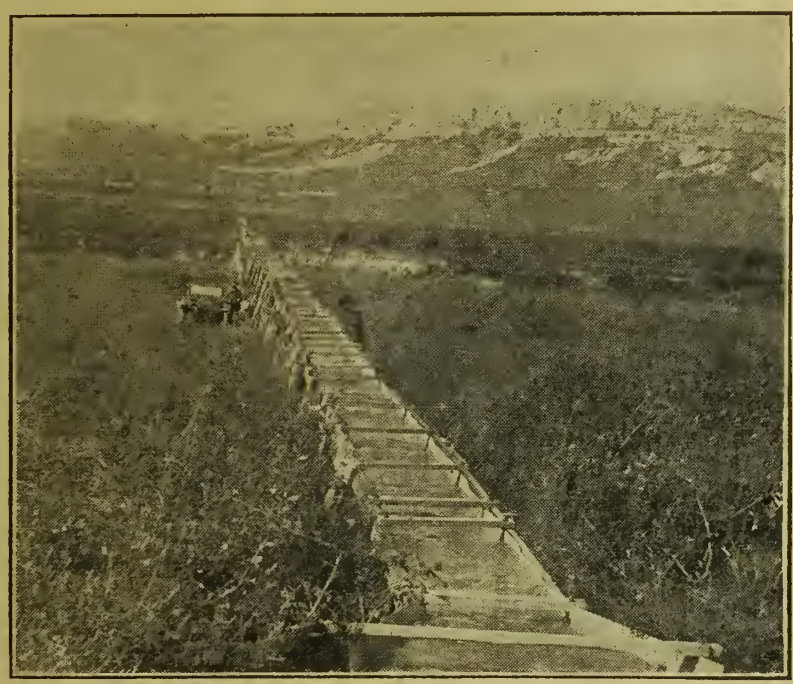
WE'RE DOING OUR SHARE IN MEAT AND BREAD PRODUCTION

NOT long ago a subscriber wrote us something to this effect. What do you fellows know about farming? Now, if you had to get right down in the dirt and dig your living out of it, you might be able to talk, but you fellows that give the farmer advice from books have never been up against the real thing."

Of course, we don't like to brag, but when a farmer calls our hand like that why we just naturally have to say something if we want to stay in the game. That is the reason for this story. Looking over the first column on the editorial page—and also at the top of the last column—there is a familiar farmer name, that of Ex-Governor Ammons, who has been a Colorado stockman and farmer all his life and is still operating a 5,000-acre ranch in Grand county. He lives in Denver and lets his eldest son manage the ranch. (The second son is in France serving his country.) He makes frequent trips to Grand county and is in constant touch with the ranch, and actively engaged in the management of its affairs.

Then there is Mr. W. S. Edmiston, general manager of Western Farm Life, somewhat of a ranchman himself, with a 6,250-acre property in Goshen county, Wyoming, which he owns and operates in conjunction with his brother-in-law, O. N. Loverchek.

How about Farmer Putnam? Well, he happens to be the only landless farmer in the bunch just now, but if [illegible] out by him-



Flume That Carries Water From Bear Creek to the Hay Fields

preached on a farm about thirty miles southeast of Denver, in Douglas county.

Prof. George E. Morton, editor of our Dairy and Hog department, is at the head of the animal husbandry department of Colorado Agricultural college [illegible] and operator of Mon-

quent visits.

The ranch comprises 6,250 acres, of which 800 acres is subject to irrigation by water flumed from Bear creek. This flume is over a quarter of a mile long, and it is shown in one of the illustrations on this page. The water is [illegible]lly on the alfalfa and na- [illegible] Edmiston has been inter- [illegible]roperty for fifteen years [illegible]ways been handled as a [illegible]on proposition and that is [illegible] business. However, be- [illegible]lemands for bread grains, [illegible] acreage has been broken [illegible]or plows and put in crop. [illegible]resent season the wheat [illegible]0 acres, there were 80 [illegible]ng rye and 50 acres in [illegible]

[illegible] the wheat was grown un- [illegible], but the greater part of [illegible]ning methods, with yields [illegible]o 20 bushels on the dry [illegible] bushels on the irrigated. [illegible]50 acres is being planted [illegible]heat, in compliance with [illegible]f the government for the largest possible acreage of the leading bread cereal.

The ranch produces about 650 tons of alfalfa hay each season, besides considerable native hay. Grade Herefords convert the hay into beef, going on the market usually at three years of age as grass-fed stuff. Bear creek runs thru the ranch and furnishes ample water, while the pasture provides grazing for summer and usually thru most of the winter season.

The accompanying photograph, taken recently, shows about 425 head of Herefords on pasture ,this being the bulk of the herd. Hogs to the number of about 200 are a supplementary source of profit and furnish a considerable addition to the supply of pork so badly needed by the nation.

While the ranch is forty-five miles off the railroad, the transportation problem is solved in modern fashion by auto trucks. By reason of the remote location it is necessary to own the thrashing outfit, instead of relying on a custom thrasher. There is a concrete dipping tank, good corrals, excellent barns of modern type and a ranch house with modern furnishings, including a Delco electric plant, which supplies dwelling, barns, cellar and blacksmith shop with electric light and power.

The only apology that is offered for giving these more or less personal details is that our subscribers should know that the men who write and plan for them are not swivel chair farmers, but men familiar with actual farming operations, up against the same problems that confront those who read our columns, and thoroly appreciative of the farmer's viewpoint. Modern conveniences, such as the long-distance phone and the automobile, have made it possible for these men of farm training to leave the farms and ranches and engage in the business of publishing an agricultural paper. They are in the publishing business because of first having had the practical experience at the farming business, and they are never out of touch with the farm, because they have ready means of communication and travel at hand. Their experience has been gained under western conditions, hence they are competent to deal intelligently with western agricultural problems.

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Western Farm Life,
Denver, Colo.

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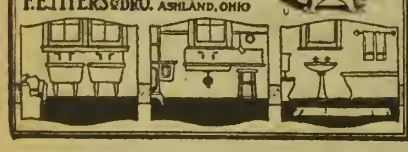

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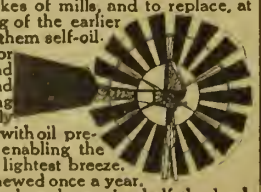

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The Potato Starch Industry

Manufacture of potato starch is an industry now receiving serious consideration by Colorado potato growers, in the effort to fully utilize the crop. Dr. E. P. Sandsten, state horticulturist, during the summer visited potato starch factories in Minnesota, for the purpose of investigating methods of manufacture and cost of process and plants. He recommends that San Luis valley conditions are suitable for the establishment of a starch factory, designating Monte Vista, the chief potato marketing point of the valley, as the possible site. That portion of his report relating to the factories visited and his conclusions after an inspection of the plants, is published herewith. In addition he collected much interesting data regarding cost of starch making that will be available to communities desiring to investigate the matter in detail.

Four factories were visited, as follows: Harris, North Branch, Cambridge and Centre City. These factories are located about fifty miles north of St. Paul in the center of the largest potato-growing district in the state. The soil in this district is a sandy loam and in a high state of cultivation. It is said to be one of the most prosperous farming communities in Minnesota, and if general appearance of well-tilled farms and excellent farm buildings and equipment are indications of prosperity, then the statement is true, for without exception the writer had never seen better buildings and better crops in any state, not excepting the Poudre valley in Colorado.

The factory at Harris was built about ten years ago at a cost of $14,000. Since that time it has been remodeled and additional improvements made in the form of new machinery. It has a capacity of 2,000 bushels per day. The factory closed the day after the writer arrived.

The factory at Cambridge has a capacity of 4,000 bushels for 24 hours' run. It was the largest and best operated factory visited, tho it lacked the pulp drier to take care of this product which at present is wasted. The factory at Centre City is a duplicate of the one at Harris, only a little smaller. It has a capacity of 1,500 bushels per day. From the writer's observation and from the talk with the manager, this factory, while making money, is not operated economically.

The factory at North Branch, while having been constructed over 15 years ago and is over-crowded, was the most economical and efficient factory of the four. Perhaps this is due, in a measure, to the fact that the factory has a pulp drier which takes care of the pulp, and from this by-product considerable profit is derived, as the dry pulp is now selling for from $28 to $30 per ton f. o. b. loading station. * * *

The use of a pulp drier in connection with starch manufacturing is an important item of saving. The drying operation, as explained before, is very simple, and requires no additional power, as this is obtained from the central plant. One man is sufficient to operate the drier—that is, sacking the product and storing it away.

The dried product is ship East, and the factory is obta $28 to $30 a ton f. o. b. load This dried pulp is used in with stock feeding and the from the utilization of th ing would go a long wa paying of the operating e starch-making plant.

If a starch factory is l rado, I believe it would vantage of the owner of have a drier installed.

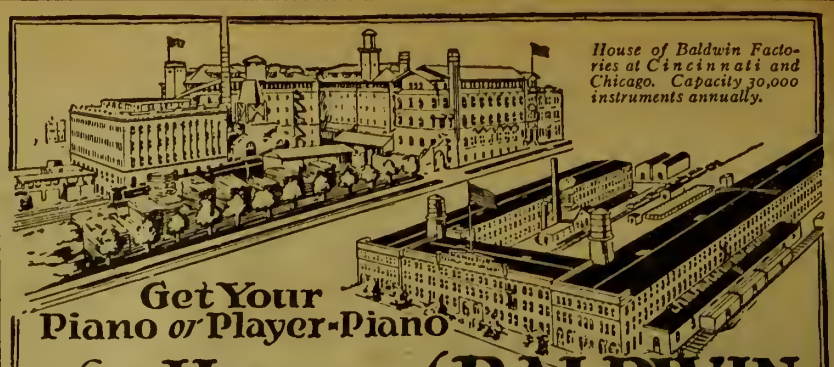
In regard to the cost factory with drier attachm eral figures given, tho t definite, due to the fact factories visited had been additional machinery insta tial cost of these plants very much alike, both in in size, was around $14,0 with the managers of the were of the opinion that a tory with modern machine ment would cost around

It takes about four mo to construct such a facto are to build one in Color tions next fall and spring, that the work start at an

There is one point in c starch manufacturing t taken into consideration factories in Colorado, an water problem. The water we obtain from the streams, and even from city water works, is not adapted to starch making. In the first place, it is not clean enough, but what is perhaps more important, the temperature of the water is too high. Warm water causes the starch to sour in the process of manufacturing, and a low grade of starch is obtained. On this account, I believe that a factory in the San Luis valley, where artesian water is easily obtainable, and where this water is very cold, would be an ideal place for a factory.

From my investigation, I have come to the conclusion and would recommend to you that we make strenuous efforts to get a factory located at Monte Vista and have it in operation for the next crop.

The Food Minister of France has requisitioned 1918 forage crops. The maximum price for best quality will be $1.00 for 100 pounds and 86 cents for second quality.



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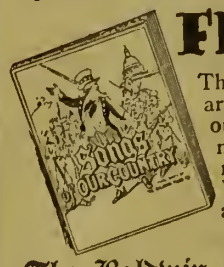

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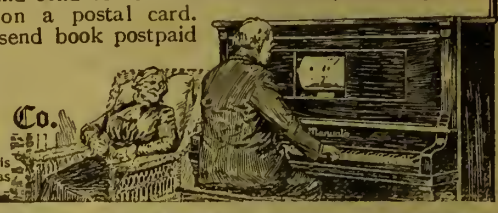

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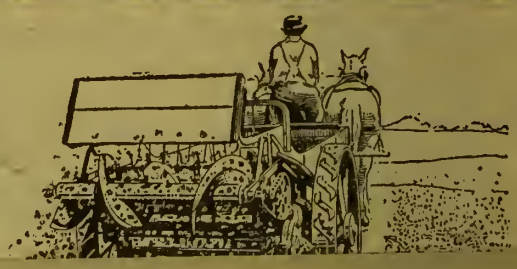

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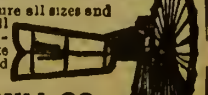

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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, OCTOBER 1, 1918 | Number 19

Something About the Farmers In Our Own Family

WE'RE DOING OUR SHARE IN MEAT AND BREAD PRODUCTION

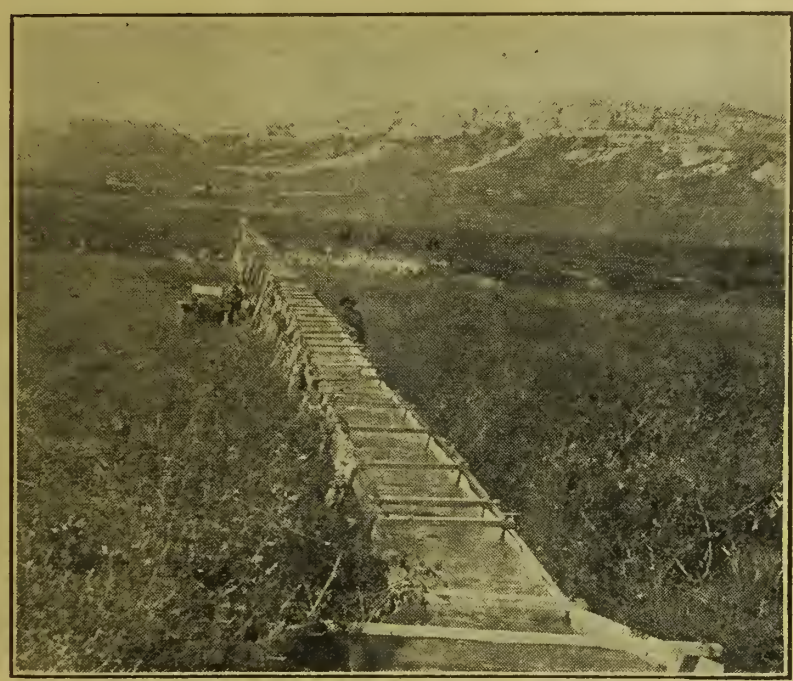
NOT long ago a subscriber wrote us something to this effect. What do you fellows know about farming? Now, if you had to get right down in the dirt and dig your living out of it, you might be able to talk, but you fellows that give the farmer advice from books have never been up against the real thing."

Of course, we don't like to brag, but when a farmer calls our hand like that why we just naturally have to say something if we want to stay in the game. That is the reason for this story. Looking over the first column on the editorial page—and also at the top of the last column—there is a familiar farmer name, that of Ex-Governor Ammons, who has been a Colorado stockman and farmer all his life and is still operating a 5,000-acre ranch in Grand county. He lives in Denver and lets his eldest son manage the ranch. (The second son is in France serving his country.) He makes frequent trips to Grand county and is in constant touch with the ranch, and actively engaged in the management of its affairs.

Then there is Mr. W. S. Edmiston, general manager of Western Farm Life, somewhat of a ranchman himself, with a 6,250-acre property in Goshen county, Wyoming, which he owns and operates in conjunction with his brother-in-law, O. N. Lovercheck.

How about Farmer Putnam? Well, he happens to be the only landless farmer in the bunch just now, but if you ever get the Farmer out by himself ask him about that sod house on the plains where he learned what sandhill farming is like; where the prairie fires wiped out the crop one season, and a rattlesnake took his brother's life the next. He knows what it is to shoot prairie chicken from the front door of the soddie with a musket. He had sandburs sticking in his hair when he was a kid. He lived on mush and milk. His Missouri days came later, and he would rather talk about prosperity, so his plains experience is seldom mentioned.

It is hardly necessary to say that Mr. E. R. Parsons is a farmer. Every regular reader is familiar with the fact, for Mr. Parsons was the pioneer exponent of practical dry land farming in Colorado, and for more than a quarter of a century he practised what he preached on a farm about thirty miles southeast of Denver, in Douglas county.



Flume That Carries Water From Bear Creek to the Hay Fields

Prof. George E. Morton, editor of our Dairy and Hog department, is at the head of the animal husbandry department of Colorado Agricultural college and is the owner and operator of Montair farm, near Fort Collins. If you read Charles I. Bray's article on sheep production in the issue of September 1st you saw an illustration from photograph taken on Prof. Morton's farm.

Yes, the family does know something about the practical end of the game.

The present article deals with the operations of the Lovercheck-Edmiston Land and Cattle Company of La Grange, Wyo., a farm corporation which is owned jointly by Mr. W. S. Edmiston and O. N. Lovercheck, his brother-in-law. This ranch is conducted just like any other big business enterprise, by an incorporated company. Mr. Lovercheck is the ranch manager; Mr. Edmiston lives in Denver, but does his part of the work over the long-distance telephone and by frequent visits.

The ranch comprises 6,250 acres, of which 800 acres is subject to irrigation by water flumed from Bear creek. This flume is over a quarter of a mile long, and it is shown in one of the illustrations on this page. The water is used principally on the alfalfa and native hay. Mr. Edmiston has been interested in the property for fifteen years and it has always been handled as a beef production proposition and that is still the chief business. However, because of war demands for bread grains, a considerable acreage has been broken up with tractor plows and put in crop. During the present season the wheat comprised 250 acres, there were 80 acres in spring rye and 50 acres in barley.

A little of the wheat was grown under irrigation, but the greater part of it by dry farming methods, with yields running 18 to 20 bushels on the dry land, and 35 bushels on the irrigated.

This fall 250 acres is being planted to winter wheat, in compliance with the request of the government for the largest possible acreage of the leading bread cereal.

The ranch produces about 650 tons of alfalfa hay each season, besides considerable native hay. Grade Herefords convert the hay into beef, going on the market usually at three years of age as grass-fed stuff. Bear creek runs thru the ranch and furnishes ample water, while the pasture provides grazing for summer and usually thru most of the winter season.

The accompanying photograph, taken recently, shows about 425 head of Herefords on pasture ,this being the bulk of the herd. Hogs to the number of about 200 are a supplementary source of profit and furnish a considerable addition to the supply of pork so badly needed by the nation.

While the ranch is forty-five miles off the railroad, the transportation problem is solved in modern fashion by auto trucks. By reason of the remote location it is necessary to own the thrashing outfit, instead of relying on a custom thrasher. There is a concrete dipping tank, good corrals, excellent barns of modern type and a ranch house with modern furnishings, including a Delco electric plant, which supplies dwelling, barns, cellar and blacksmith shop with electric light and power.

The only apology that is offered for giving these more or less personal details is that our subscribers should know that the men who write and plan for them are not swivel chair farmers, but men familiar with actual farming operations, up against the same problems that confront those who read our columns, and thoroly appreciative of the farmer's viewpoint. Modern conveniences, such as the long-distance phone and the automobile, have made it possible for these men of farm training to leave the farms and ranches and engage in the business of publishing an agricultural paper. They are in the publishing business because of first having had the practical experience at the farming business, and they are never out of touch with the farm, because they have ready means of communication and travel at hand. Their experience has been gained under western conditions, hence they are competent to deal intelligently with western agricultural problems.

Herd of High-grade Herefords on the Loverheck-Edmiston Ranch

Marquis Wins Out In Boulder County Wheat Test

REVIEW OF EDUCATIONAL FEATURES OF THE COUNTY FAIR

ALVIN T. STEINEL

FROM the agricultural standpoint the Boulder County Fair is recognoized in these Rocky Mountain states, as a standard institution. Other Colorado county fairs have been watching its development and studyiig the reasons for its success. There are two principal reasons why this fair holds the interest of the farmers year after year: it is of educational value to them and it is conducted by an association that avails itself of the advice and judgment of both farmers and business men of the county. It is not a private money making institution, but a public enterprise supported by public spirited citizens. It is Boulder county's fair and not Longmont's altho held on the Longmont municipaily owned grounds.

The present was the third year that the writer has visited the fair, giving especiai attention to the agricultural exhibits and, incidentally, enjoying a spiendid amusement program on the track, for the fair is always well balanced, the entertainment features while subordinate to the exhibition, being of a pieasing character.

A year ago I made extended reference to the contest between growers of Marquis and Defiance wheats, the object of which was to determine which of these two varieties was best suited to Boulder county conditions as an irrigated spring wheat. This experimental contest was continued this year and it may be the last time, because its object has been accomplished. Marquis wheat, according to the records established by the exhibits, has shown its superiority over Defiance under adverse conditions. It was hard this year to get enough Defiance growers to make up the twenty who took part in the experiment. The present season has offered the test of the two varieties under unusually wet conditions, with the result that Marquis was found to stand up much better than Defiance, which has always lodged under conditions of excessive moisture. This season only one or two of the Marquis fields lodged badly, while this condition was common in fields of the other variety.

It is was the wet season of 1915 that first brot out the superiority of Marquis in respect to standing up under excess moisture. Before that time most of the farmers had grown Defiance, which has been a favorite spring wheat in all the Northern Colorado irrigated sections. Lodging and rust in 1915 resulted in shrunken berry and low yield of Defiance, while the few fields of Marquis, the seed for which was brot in by County Agent H. H. Simpson from the San Luis valley, showed little lodging and gave a better yield. This caused a sudden switch to Marquis in 1916, and much discussion arose as to whether this was a wise move. To determine the matter to the satisfaction of the farmers, the Farm Bureau decided on the test under field conditions, results to be shown at the county fair. About forty growers participated. This plan gave the experiment a county wide distribution. Additional data was also gathered from other growers, to the total number of 63, representing deliveries of over 34,000 bushels of wheat. County Agent Simpson, in his summary of results, not including the 1918 crop, made the following report:

Marqpis: Average yield, 43.17 bu.; test, 62.1 lbs.; time of maturing, 136 days; ;rate of seeding, 72 lbs.; average price per bu., $2.1397; returns per acre, $92.37.

Defiance: Average yield, 47.68 bu.; test, 60.6 ibs.; time of maturing 145.5 days; rate of seeding, 63 lbs.; average price per bu., $2.0914; returns per acre, $99.72.

That summary was based on the crop reports of 1916 and 1917. It shows a iarger income per acre in favor of Defiance, but a lower test, longer period of growth and less price per bushel.

The seasons of 1916 and 1917 were very favorabie for spring wheat. Now comes 1918 with approximately the same conditions as 1915 and Defiance breaks down, whiie Marquis stands up weii. While some growers will continue to use Defiance, the experiment has narrowed the number of standard varieties to these two, and emphasized the necessity for eiiminating ali other varieties and especially the mixtures.

Livestock Barns on the Boulder County Fair Grounds

Mixed Wheat Lessons

Another interesting educationai feature in the wheat line was entitled "Lessons in Mixed Wheat," shown by exhibits arranged on a table, each exhibit placarded. There were sampies of mixed varieties, and pencil tablets at hand on which farmers wrote their guess as to the name of the variety. Some samples were badly mixed, and one guess was as good as another.

Wheat stalks were shown to demonstrate the stooling qualities of winter wheat; for example, tweive stalks of velvet chaff contained 34 heads, indicating an average yieid of 2.8 bu. on dry land, while 19 stalks of Turkey red, grown on the same land, showed 147 heads, indicating a yield of 7.7 bu. per acre, a clear enough indication of the superiority of Turkey red.

In the mixed wheat exhibit a sampie shown contained 40 per cent velvet chaff, 56 per cent Turkey red and 4 per cent of some unknown variety. One farmer lost 7 cents a bushel on his wheat because he grew a mixed strain, this loss being graphically shown in exhibit of the straw and the thrashed grain, the grain having been separated as to variety and returns calculated on the basis of the pure wheat of each strain found in the sample. The farmer who brings mixed grain to market gets paid according to the mixture and not on tne basis of varieties contained in same.

Another interesting exhibit showed the difference between wheat sown on stubble and that on plowed ground. The stubble sown grain was so poor in yield, as compared with that on plowing, that only a casual glance conveyed the lesson. These samples were from the same farm.

Smut Losses Shown

Lessons in smut treatment were simiiariy told. A dry land farmer treated his wheat seed to prevent smut. He used blue vitriol, but failed to make his solution of the required strength and he failed, also, to leave the seed in the solution the proper length of time, consequently he had some smut in the field, but his loss was only 6½ per cent. The comparative exhibit from the farm of a man who failed to use any preventive treatment showed a crop loss of 22½ per cent. A few dollars spent for blue vitriol or formaldehyde and time spent in properly applying the solution, would have prevented practically all of this loss. Many a wheat grower looked long at the samples of smutted wheat heads and read the placards carefully.

Corn Attracts Attention

Next to wheat the greatest interest appeared to be in the corn exhibits. Two years ago there were seven tenear exhibits at the fair; this year there were 55. Besides the increase in number, there is apparent the standardization to a few varieties, principally Minnesota No. 13, which is being made THE Boulder county corn, both on irrigated and dry lands.

While the fair took place the first week in September, there was plenty of well-matured corn shown, the early maturing qualities of Minnesota No. 13 being in evidence.

This year's corn crop in Boulder county looks like the "best ever." I am hoping to handie this subject more in detaii at the time of the winter corn show, when the crop wiii be in the cribs and silos, and we can get together at a Boulder County Farm Bureau meeting and discuss corn, knowing the yields and the germination of seed corn for next season.

This standardization of products is emphasized by the premium list, which shows premiums on standard varieties of corn, wheat, etc., double or treble the value of premiums offered on general exhibits in the agricuitural crop division. In potatoes the variety stressed is Green Mountain; in tomatoes it is the John Baer, a northern variety recommended for Bouider county conditions by Dr. E. P. Sandsten, State Horticulturist, and proving fully up to the Doctor's recommendations in quaiity, appearance, hardiness and other features.

The high altitude farming sections of the mountains were well represented by exhibits of potatoes, garden truck, hay and grains. There was an exhibit of Marquis wheat from a farm 9,000 feet above sea level, showing that Marquis is running true to its northern form. Timothy hay from the same level was exceptionaiiy fine in heads. Grimm alfalfa is being tried out at those high elevations with some promise of success.

Pure Seed Law History

There was a seed treatment demonstration that followed the line of the pure seed piedge campaign now being conducted thruout the state by county agents. Farmers were reminded, while watching this demonstration, that it was the Boulder County Farm Bureau that put thru the Colorado pure seed law. They saw a sample of the carlot of alfalfa seed that aroused the storm against unscrupulous dealers who are responsible for a large share of the weed nuisance, which is costing this state millions of dollars in depleted grain yields. This car of so-called alfalfa seed was originaiiy intended for use in the manufacture of dye stuffs. For some reason it could not be shipped for that purpose—probabiy due to war transportation troubies. It found its way into the seed market thru iiiegitimate channels and was dumped on to the farmers of Colorado. About 8,000 pounds of it showed up in Boulder county. Farmers brot some of it to County Agent Simpson for testing. He found it running from 8 to 20 per cent in germination tests and badiy infested with burdock, plantain and other noxious crop and moisture robbing weeds.

His tests were checked up by the State Experiment station and found correct. The result was the drafting of the bill, conferences with seed dealers, who feii in line after some discussion, and the enactment of a iaw which not only protects the farmer but enables the honest seedsman to prosper, because competition of the dishonest dealer has been practically eiiminated.

Sugar Beet Exhibit

Sugar beets heid their place as in previous years, with educational exhibits showing type and size as well as sugar content. The beet growers found opportunity to study the type and size of beet that pays best—the combination that yieids ample tonnage, without sacrificing sugar. This ideal may not meet the requirements of the expert who selects for high sugar alone, it may be called the "farmer's beet," because it hits the happy medium.

Much might be written about the livestock division if space permitted. This division is growing stronger, altho not yet what the fair association desires in number of exhibits. The quality was fine, there being good stock in beef and dairy lines, horses and mules and in swine. The latter exhibit showed particularly good progress over previous years.

In the horticuitural division the appie show was pleasing, and along with fruits came honey and other products of the apiary. A case of good things to eat in which honey took the place of sugar attracted much attention, because of the necessity for sugar conservation. This case contained several kinds of cake, wafers, cookies, brown bread, candies, jeiiies and canned fruits, all prepared with honey as the sweetening substitute for sugar.

The Farmer's Union, as usual, had a splendid exhibit, the eduational feature of which was a case showing the various grades of grain, according to the United States standards.

Boy's and Girl's Clubs

Boys' and Girls' club work the county over found the fair a medium of showing what the year had brot forth in the way of juvenile accomplishment. The Pig club exhibit was one of the strong features of the livestock division and it proved highly pleasing to Mr. J. T. Tingle, the government organizer, who has been active in Colorado for aimost a year doing fundamental work in building up pork production.

A canning exhibit containing over 200 jars of fruit astonished the ladies who viewed it and who were profuse in their complimentary remarks about "the young ladies that are doing so much in food conservation." There was more astonishment when Maude E. Sheridan, Assistant State Club Leader, reminded spectators that there were also boys in the canning clubs, and that the judges could not teii the difference between the work of the boys and giris in canning. The awards in canning were made as follows: Isabei Linton, Buriington neighborhood, first; Blanche White, Buriington, second; Vera Manchester, Valmont, third; Merriii Linton, Burlington, fourth; Nellie Shunter, Montgomery, fifth.

Different ciubs had charge of the daiiy canning demonstrations, the girls not only showing how the work is done, but lecturing as they went along in the various operations. On the day I saw the demonstration it was put on by the Valmont team, comprising Vera Manchester, Mabel Hixson and Margaret Sammons.

In the sewing club exhibits a garment made by Mabel Hixson, aged 11 years, from an old woolen gown belonging to her mother, brot much praising from housewives who know what good sewing means. In third year sewing the premiums were awarded in this order: Mabel Hixson, first; Vera Manchester, second; Isabel Linton, third; Margaret Sammons, fourth, and Helen Hockaday, fifth.

The most noteworthy crop exhibit in the boys' division was corn, all Minnesota No. 13, the awards being made as follows: Carl Hixson, Valmont, first; Charles Keisey, Davidson district, second; Horace Selby, White Rock, third; Harry White, Burlington, fourth; Guy Hart, Beasley district, fifth. There were nineteen corn exhibits, each representing an acre of Minnesota No. 13 grown from pedigreed seed.

Little Mae Burke of Boulder, a 10-year-old giri, showed some ears of liberty corn, the kernels being in the national colors.

Be a pioneer and store home-grown food as if no freight trains were running or grocery stores open.

TRAPPED

By BEN AMES WILLIAMS, Author of "Three In a Thousand" "Swords of Wax," "The Powder of Midas," Etc.

THRILLING STORY OF GERMAN INTRIGUE AND AMERICAN PLUCK—A TALE OF WAR, LOVE, ESPIONAGE, CUNNING, AND COURAGE

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NELSON HOBART saw the dory drifting up the bay past his cottage one afternoon, and went out and picked it up. There was a dead man in it. The man had been shot thru the forehead, and the back of his head was gone.

Hobart and Bill Marks and Anne Marshall were playing fan-tan for chips, on the veranda of Hobart's cottage. Hobart's luck at cards was proverbial, and he had been winning all the afternoon. He was a young fellow, in the twenties, tall and bulky. He disliked to be called fat, but even his friends admitted he was not thin. Broken arches and athletic heart had barred him from both army and navy the year before, and he was spending this second summer of America's participation in the war with his mother and sister at the summer colony called "The Barbette," on the upper reaches of one of the deep bays that scar the coast of Maine.

The colony was established on the site of an old battery of Civil War times, and the earthworks of the emplacements and magazines served as terraces upon which some of the cottages were set. There were a dozen or so of these cottages, most of them occupied, and the people of the colony were of the congenial sort, so that the place was a little community by itself.

Bill Marks, who was playing with Nelson and Anne Marshall on the afternoon the dory appeared, deserved a more dignified title. During the winter he was Superintendent Will Thornton Marks of the high school in one of the aristocratic Berkshire towns; but from the middle of June till the middle of September, he was Bill Marks of the Barbette, and looked the part. He wore, habitually, a yellow straw helmet so flimsy that he lived in perpetual fear of being caught in a shower.

"They come right down around your shoulders if you get a drop of water on them," he explained seriously to any sympathetic listener. He had shellacked the helmet in the hope of averting such a disaster, but never dared risk a wetting to see whether or not the shellac was effective. Besides the helmet, a shirt without a collar, trousers of khaki without a crease, and shoes without soles completed his costume. He was a large man, nearing the sixties, but he played tennis in a way to inspire awe in the beholder if not in his opponent.

Hobart and Bill Marks were old-timers at the Barbette. They had been there in previous years, as had most of the others. But Anne Marshall, who formed the third in their game on this day, was a newcomer. She and her mother had taken the cottage called the Outpost, at the northern end of the colony. Two empty cottages separated them from the rest of the cottagers, but for the most part they seemed content to live apart. Marks had kidnaped the girl on this day and haled her bodily to the Hobart cottage to make a third hand in the game. She came good-naturedly enough.

It was she who first saw the dory. It was then far down the bay, a dark dot upon the water. The tide was coming in, and a southerly wind that kicked up a sharp and choppy sea combined with the tide to bring the dory steadily and swiftly up the bay toward them. The girl watched it for a little time without calling the attention of the others to it; and there was some vague shadow of concern in her eyes as she watched. It was only when its outlines became more distinct that she cried, relief in her voice:

"There comes a dory, adrift."

Bill Marks groaned. "You people are making me play cards I don't want to," he grumbled, and laid down a six of hearts before he turned lumberingly in his chair to look in the direction the girl indicated. Hobart had turned more quickly, and he exclaimed:

"Say—that's right. Wonder if there's any one in her."

Marks shook his head. "She rides too high," he declared.

Hobart got up and went down to the beach to look far down the bay. "Don't see any one coming after her," he called.

"I wonder where she comes from," the girl murmured.

"Broke her mooring somewhere," Marks suggested. "Play, Nels. It's your turn."

Hobart returned reluctantly to the game. "It's a wonder some one hasn't picked her up before this," he said.

"Marks pointed down the bay. There's fog lying, below there. She was hidden till she came out of that."

"What's the etiquette in such a case?" Hobart asked. "Let her go, or pick her up?"

"Go out and get her and bring her ashore. They'll come after her."

"How will they know when to come?" the girl inquired.

"Follow the wind. Play or chip, Nels."

"I think I'll go out and get her," Hobart declared.

"Well, wait till she comes up here. Time enough. Are you going to play, or not?"

Hobart laughed. "Don't be a grouch, just because you don't know the game." He played a king, and on the next round an ace. "Now both of you chip—twice," he taunted, and they did so while he played deuce-ace of clubs. Thereafter, with the five of hearts and the seven of diamonds as his last two cards, he won the hand and hauled the chips toward him. "You'll like this game, when you've learned it, Bill," he declared encouragingly. Marks snorted.

The dory, all this time, was coming steadily and relentlessly toward them. It became apparent that it would pass the Barbette at a distance of half a mile from the shore, and after another hand—which Hobart won—Marks rose with a disgusted grimace. "Well—I suppose I've got to get that dory—if no one else is going to," he grumbled.

Hobart laughed and thrust him back into his chair. "I'll go," he exclaimed. "Maybe one of you can win a hand, with me out of it."

He took the oars from the niche in one of the hollow pillars of the veranda and clambered down to the rocky beach. A large rowboat lay at a mooring, a hundred and fifty yards off shore; but a small and eccentric craft which a man might carry with one hand was dragged up on shore and served as a medium for short journeys or to reach the moorings.

This little boat was made with a flat bottom which curved upward at both ends; and both ends were blunt. The bow was slightly narrower than the stern; but even the bow was a full two feet across. The boat's sides were high, it was not more than five feet long, it was more cranky than a canoe, and at the same time more dependable than a coracle; and its peculiar contours had won for it the name of "The Peanut." It looked exactly like half a peanut shell.

Hobart caught it by the gunwale, lifted it on its side, rested its bottom on his knees, and so lugged it down to the water and thrust it in. When it was safely afloat, he climbed gingerly aboard the craft and thrust off.

The dory at that time was about two hundred yards below his cottage. He struck out to intercept it, following the trough of the waves, because the Peanut rode more easily in that position. When the little craft bucked the waves, its blunt bow hit them so solidly that it stopped dead at every impact; but in the trough it lifted easily and lightly to each billow.

Bill Marks and the girl remained on the veranda of the cottage to watch his progress. "That's a fisherman's dory," Marks said quietly.

The girl made no reply, and the man looked at her curiously, and saw that her face was white and her lips were set. He touched her arm. "What is it?" he asked gently. "Are you all right?"

She started, laughed uneasily, and wrenched her eyes away from the dory to face him. "Why—yes," she said. "I—only—I—"

She did not finish the sentence, and he prompted:

"You—what?"

She lifted her hands helplessly. "I've a horrible feeling there's—something in that dory."

He looked at her intently, turned to study the drifting craft. "Don't think so," he argued. "She rides pretty light."

"Oh—it's just a feeling," she admitted. "It's foolish of me."

Hobart, in the Peanut, was more than half-way to the derelict, and a choppy wave lifted him high and dropped him in the trough, and another wave slapped the Peanut's side and broke into spray. The wind slathered this spray over Hobart, half drenching him. There was a megaphone on the veranda, and Marks caught it up and called through it:

"Oh—you—lubber!"

Nelson waved his hand to them and went on.

Some one came around the corner of the cottage to join them on the veranda. They turned at the sound of footsteps, and saw that it was Eben Scour. Scour was a little man, with one leg shorter than the other as a result of an accident in boyhood; and the thing had left its imprint on his face. His countenance was small, the features set close together, and meshed with innumerable tiny wrinkles, as though the wrinkles were a net to hold eyes and nose and mouth in place as a woman holds her hair.

He had hired a portable cottage, which was set on the hill behind the one Hobart occupied, and lived alone in its two rooms. He was a silent, unsmiling man, with curiously hot and ardent eyes; and he was a marvelously good swimmer, as much at home in the water as one of the porpoises that rolled over and over in the shallows off the Barbette.

"Hello, Eben," Bill Marks greeted him. "Come to watch the salvaging crew at work?"

Scour nodded silently, and his eyes flashed from Marks to the girl and, lingered for an instant with a curiously softened gaze upon her countenance. She smiled; and though the rigidity of his tight little mouth did not relax, there was an answering smile in his eyes.

"He'll have it in a minute, now," Marks said, looking off to where Hobart labored in the Peanut.

"I saw the dory drifting, and came down before I knew Nelson had gone out," Scour said slowly. "Whose is it?"

"Derelict, I suppose," Marks told him. The three watched silently as Hobart approached the dory.

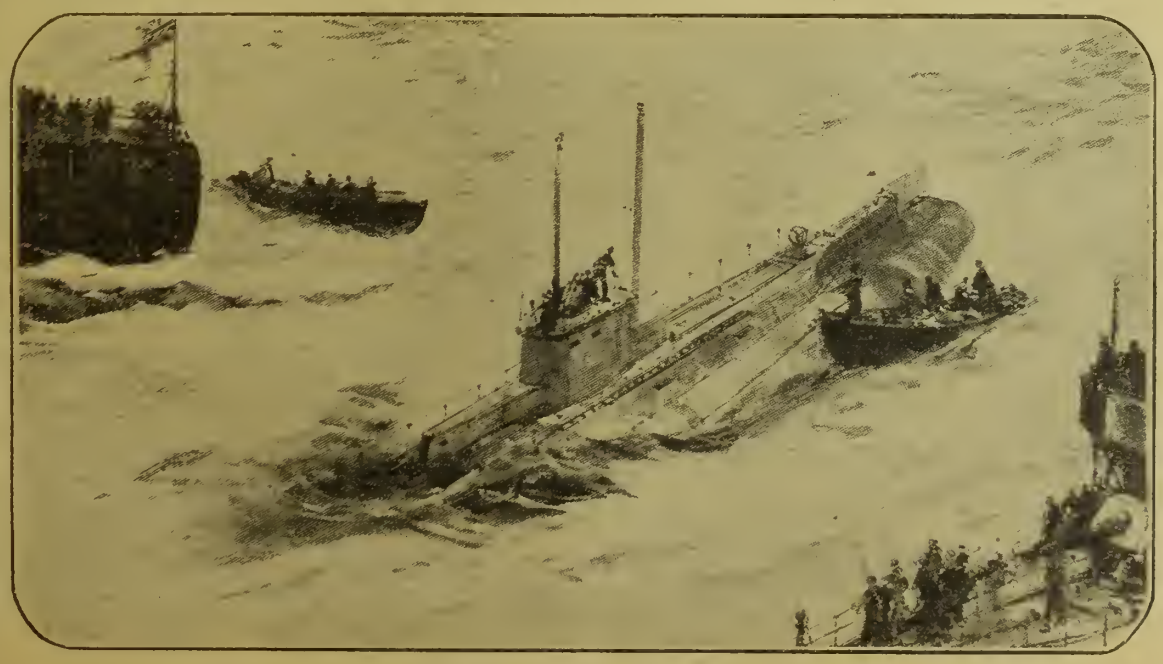
They saw him draw near it on the windward side, and drift against it, and they saw him look into it. Then for a moment he did not move, and the Peanut bobbed up and down perilously, banging against the heavy sides of the larger craft.

"He ought to get into its lee," Marks said, half to himself, and as though Hobart had heard him, the Peanut drew away and circled and came up on the other side of the dory.

Scour looked sidewise at the girl. She was scarce breathing, and her whole heart seemed to be in her eyes as she watched.

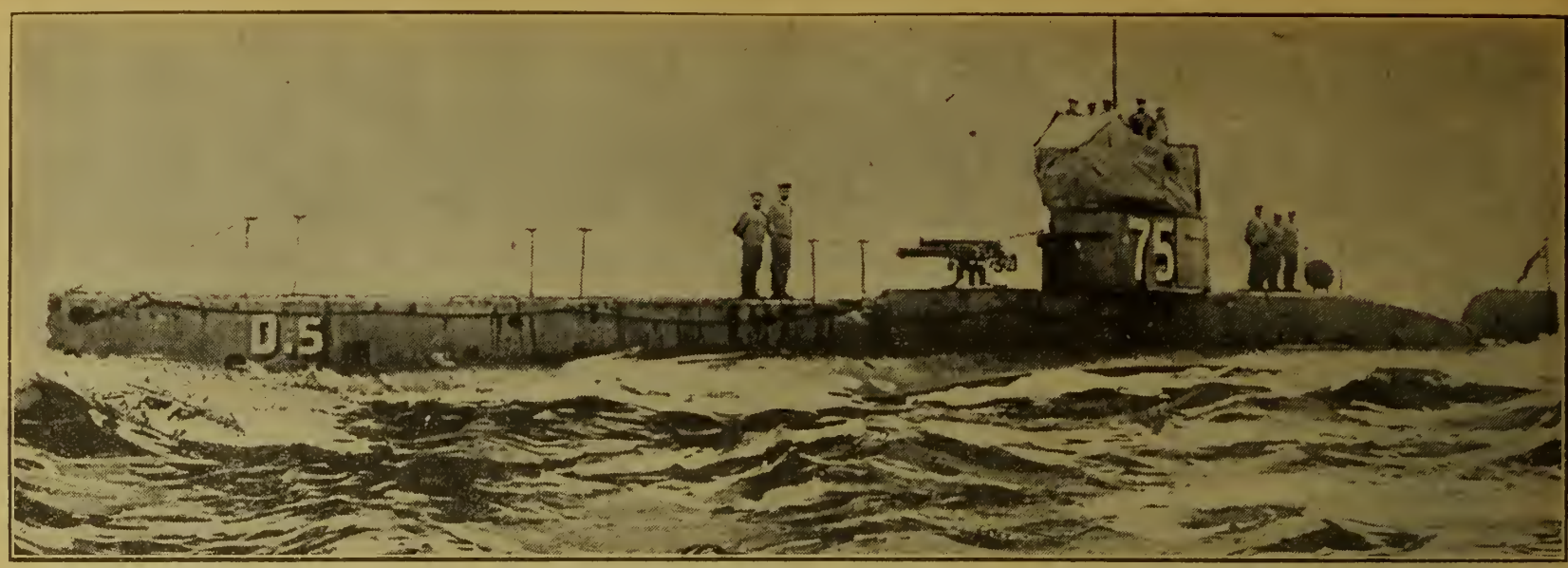
Hobart drew alongside again, and rose precariously in the Peanut and stepped into the dory. He had climbed in at the stern, and he made fast the Peanut's painter to the loop in the dory's stern. Then they saw him move forward in the dory, picking his way.

"Her oars must be in her," Marks said, and a moment later Hobart lifted them and laid them in the tholes and swung the dory about so that she headed toward the shore, and then he began to row. The Peanut trailed astern, swinging to leeward under the pressure of the wind, and dragging the dory to that side again and again. Hobart was row-



CAPTURE OF A GERMAN SUBMARINE

"But for the moment, after the capture of this stranded craft, quiet fell upon the bay."—From TRAPPED, by Ben Ames Williams



ANOTHER SCENE FROM BEN AMES WILLIAMS' SUBMARINE SPY STORY
"The second U-boat, forced to the surface by the damage it had sustained, managed to put up a fight"

ing with short, sharp strokes, and they all saw that he was making his best speed.

"What's his hurry, I wonder," Bill Marks whispered; and the girl put her hand to her throat and watched with eyes that widened and filled with piteous anticipation. Scour watched the boat and he watched the girl.

After a time they saw that Hobart was not making directly for the cottage, and presently it became apparent that he was working toward the mooring where the other boat lay. He reached it at length, and made fast the dory to a ring in the stern of the moored boat, and then climbed into the Peanut again and started toward the shore.

Marks caught up the megaphone. "What's the matter?" he called. "Why don't you bring her in?"

Hobart turned and shouted over his shoulder: "There's a dead man in her."

CHAPTER II.
THE DEAD MAN.

Bill Marks never spoke save with authority. He could speak with authority on more topics to the square inch than an encyclopedia. One of his favorite topics was the Gulf Stream. He explained that phenomenon as though he had himself arranged its workings; and it obsessed him to such an extent that in moments of stress it was the first thing to which his thoughts turned.

When Hobart shouted: "There's a dead man in her," Marks hurried lumberingly down to the shore to meet the Peanut, and at the same time he declared passionately, over and over:

"It was the Gulf Stream brought her in here. I know it was."

It was his way of trying to appear calm. The others did not try. The girl sat down weakly in a chair upon the veranda, and her eyes closed. Eben Scour asked softly: "All right?"

She nodded, and he left her and joined Marks on the shore. His eyes were gleaming. The two waited for Hobart, and when the big young man drew near, they saw that he had the pallor of seasick folk.

A few moments before the Barbette had seemed quiet and almost uninhabited. The two littlest Lewis children were playing with a flat-bottomed boat on their beach; and up on the hill above the cottages, Sir Oscar Hinge, the farmer who did all the heavy work about the place for the cottagers, was weeding Bill Mark's turnip patch. Mrs. Marshall was rocking in her veranda chair, and the other women were indoors.

But most of them must have been watching Hobart's cruise after the dory, for when they saw him moor the craft to the other boat, every one guessed that something was wrong, and before the Peanut grated on the pebbles, half a dozen folk had gathered to meet Nelson there. He drove the Peanut ashore and clambered out, and when he got to his feet he staggered a little, sickly.

"What is it, Nels?" Bill Marks asked quietly, catching the young man's arm and supporting him. Nelson looked at him unseelngly, looked about him at the other intent faces.

"There's a dead man in her," he repeated huskily.

Two or three of his hearers uttered low cries. Marks asked: "Fisherman?"

Nelson nodded.

"We'll have to telephone the coroner," Marks announced, and looked around and saw Herb Lewis—New England stock for all his Welsh name—hurrying toward them, and he called: "Herb, telephone Dr. Snow there's a dead man in that dory, will you?"

"Y' don't mean it?" Herb exclaimed.

"Yes, I do, too," Marks insisted.

"Who got the dory?"

"Nelson."

Lewis ran his fingers through his hair. "Say, son," he declared, "I've been wishin' all summer I'd see a boat driftin' past here, and I was cussin' my luck when I saw him go after her. But I'm glad it wa'n't me, at that."

"Go on and telephone, and don't stand there talking," Marks told him, and Lewis assented and departed.

The others remained on the beach, looking out at the dory. The craft seemed innocent enough, tossing at the end of its painter; and the watchers gathered in little knots, and their voices were unconsciously hushed. It was a bright, clear day; and the waves sparkled in the sun. It was hard to realize what that dory held.

Hobart said huskily to Bill Marks, so that the others could not hear: "He's been shot!"

Marks ignored him; he turned his attention to scattering the little group, and he joked with them and scolded them into good humor, and drove them slowly back to their verandas, where they stayed to watch what followed.

They laughed at his jokes, in a hysterical, jerky fashion. They all laughed save Anne Marshall. She sat in the chair where she had fallen, her eyes closed. Eben Scour went to her, touched her arm. "Would you like to go home?" he asked.

She opened her eyes and looked up at him, and after a moment she smiled weakly. "That's a long ways to walk—as I'm feeling," she confessed.

"I'll go with you."

She nodded, and sat up straight, and then rose to her feet. They went off quietly together, along a path through the alders that fringed the northern cottages. Neither spoke, until they had all but reached her cottage. Then she asked:

"How—was he killed? Do you know?"

"I heard Hobart say he had been shot."

The girl stumbled a little, then went steadily on. Eben left her with her mother, returned to the Hobart beach. Bill Marks and Nelson were sitting on the breakwater, talking quietly together.

"I think I'll go out and take a look at him," Eben said. "Will you come, Mr. Marks?"

Marks shook his head, grinned soberly. "Not if I know it," he said.

"Mind if I take the Peanut?"

"Go ahead."

Eben shoved the awkward little boat into the water and clambered in. They watched him row out toward the dory. "I wouldn't go out there for a million dollars," Marks declared.

Hobart was himself again. He grinned. "Was'nt it you that said there was nothing in that dory?" he asked.

"There you go," Marks protested. "Picking a man up on every little thing. Oh, I don't see how your mother lives with you."

"'No one in her,'" Nelson mocked. "'She rides too high.'"

Herb Lewis came briskly down to the beach. "Doc says he'll be right along," he reported.

Marks nodded, then called after Eben in the Peanut. "Better not touch anything. The coroner will want to see it!"

Eben nodded assent. Herb asked: "Where does he think he's going?"

"Wanted to go out and see it."

"Well, f'r goodness' sake!"

"That's what I say."

They watched in silence for a moment. "He's a funny cuss, ain't he?" Herb exclaimed.

"Queer man," Marks agreed.

"He's a grouch," Hobart echoed. "Who is he, anyway? How did he happen to come here?"

"Comes from a little town up in Maine," Marks told them. "His father—I used to know them."

"New England folks? He looks—like a foreigner of some kind?"

"Mother was a foreigner. Her name was Strelitz—something like that."

"Strelitz?" Hobart echoed. "That's German."

"Hungarian, I think. But—she was born in this country."

"Where does he get his grouch?" Hobart insisted. "From her?"

Marks shook his head. "Ask him." He hesitated. "I—believe it upset him when he couldn't get into the army?"

"With that game leg? The nerve of him!" Hobart laughed shortly.

Eben had reached the dory and made fast the Peanut astern of it, and clambered into the craft. They could see him crouching and peering down at something in the bottom. "He's giving it the once-over, all right," Lewis ejaculated. "I wouldn't do that for a fortune."

They watched silently while the little lame man continued his scrutiny. He climbed from the dory into the Peanut again after a time, and worked around the larger craft, studying every inch of it. "He'll know it when he sees it again," Hobart commented scornfully. "I don't see what makes a man want to look at a thing like that."

In the end, an automobile roared down the lane from the main road, and Dr. Snow, the coroner, alighted and came down the beach toward them, looking from them to the dory. The doctor was a tall, calm, thin man, with a scraggy beard. "Where is it, Bill?" he asked Marks when they had greeted each other.

"In the dory out there."

"Who's that in the wash-tub."

"Wash-tub? That's the Peanut."

The doctor laughed. "Some boat. Who's the man?"

"Eben Scour."

"What's he doing?"

"Glutting his curiosity," Hobart told him, and the doctor looked around quickly at the resentment in the young man's tone.

"That's what I want to do," he said gently. "Tell him to come in and ferry me out."

"Peanut won't hold two," Marks objected. "He'd better row the dory in."

"All right—anything."

Marks climbed to the veranda and got the megaphone and called to Eben: "Row the dory ashore, Eben, will you? The coroner is here."

Scour waved his hand in token of assent, made fast the Peanut to the dory, loosed the dory from the other boat, and rowed toward them. For all their disclaimers of curiosity, Lewis and Hobart were the first to lay hands on the pointed bow of the craft, and Marks and the doctor helped them drag her high on the sands. Eben leaped ashore. They stood silent, looking down at the thing in the dory.

The body lay in a curiously awkward heap amidships. The dead man's legs were doubled under him as though he had been kneeling when he was shot. One arm was crumpled under his body, the other curved above his head. His head lay on its side in the bottom of the boat. There was a hole above his right eye; a small, insignificant hole that seemed scarce more than a bruise or an abrasion. The bullet had whirled out through the back of his head, hideously. Three codfish lay in the boat, half under his body, and there was a tangle of line dragging from one gunwale. The man wore breeches of yellow oilskins, and a coat of the same material was flung out of the way forward. The "sou'wester" hat lay in the bottom of the boat near his feet, almost beneath the after thwart.

The others stood aside a little while the doctor bent over the body, and they watched silently while he made his examination. He bent low to scrutinize the wound, lifted the hand that curved above the man's head, stood back to survey the boat, and then turned to Bill Marks.

"You didn't serve in Spain, did you?" he asked.

Marks shook his head.

"Know anything about bullet wounds?"

"Shot myself in the thumb with an air-rifle once!"

The doctor laughed abstractedly, and turned to the dory again. Eben Scour stood a little behind the others, watching. Presently the physician straightened up. "Can one of you tow the dory to town for me?" he asked.

"The Marshall's have a power boat. I'll get that," Marks offered.

"Thanks—wish you would."

"Man was kneeling when he was shot, wasn't he?" Hobart asked.

The doctor shook his head. "Sitting on the after thwart," he said. "He fell forward on his knees and face."

"Now who in time 'd do a thing like that?" Herb Lewis demanded. The doctor grinned slowly.

"That's what I aim to find out," he said.

Eben Scour touched his arm. "Did you notice the hat?" he asked.

The coroner looked at him, then at the boat. "Why—yes."

Eben stepped toward the dory. "I mean—look here," he called.

They all gathered behind him, looked where he pointed; and the coroner bent low and uttered an exclamation of surprise, of satisfaction. The others saw a faint glint of metal half hidden under a torn fold of the oiled fabric. The doctor lifted the hat gently, shook it. Something heavy dropped into his hand and lay there.

"The bullet!" he exclaimed.

It seemed an innocent thing enough; a little bit of metal, rounded, blunt at one end and pointed at the other. But it was not dull like lead; there was a silvery tint beneath the stains that covered it. "Never saw a bullet like that," Herb Lewis ejaculated. "What is it, doc?"

The doctor held the bullet out before them in his palm. "What is it, Marks?" he echoed. "You ought to know."

"Looks like a—military bullet."

"Hobart?" the doctor challenged. The young man shook his head.

"I don't know," he admitted. "And—I don't see that it matters."

The coroner looked at him keenly. "Oh, yes—it matters," he corrected, and turned to the cripple. "You—Scour—you know," he said.

Eben nodded.

"Tell them," the doctor directed.

"It's a Mauser ball," said Eben Scour.

CHAPTER III.
THE BUG-LIGHT

Marks borrowed the Marshall motor boat, a dory, painted white, and with a small engine installed, and he towed the derelict dory to town, where Dr. Snow, who had gone by automobile, met him and took the thing in charge.

Bill Marks asked the doctor then: "What does the bullet mean, doctor?"

The coroner and Bill were old friends, and the physician looked shrewdly at the other man. "Don't you see it?" he asked.

Marks shook his head.

"It was a Mauser ball—I'm fairly sure."

"All right—what of that?"

"The Mauser is the German arm."

Marks looked steadily at the bearded man, and he took off his grass helmet and scratched his head. The doctor smiled a little, without mirth, and Marks said softly: "Well, go to it, doctor," and climbed back into the motor dory and set out on the return to the Barbette.

The bay was dimpling in the sun, and the air was as clear as crystal. Along the western shore the hills rose one behind the other till they reached a climax in one blue, distant peak. Southward in the bay lay a wooded island, miles long, its southern shores dotted with cottages. East, another range of blue hills, with Mount Desert's round crest appearing through a notch in the nearer range.

Across the bay, Marks saw the Boston boat emerging from the mouth of the river, and he watched it swing around to its first stopping place. It was white, and it gleamed in the sun. Beyond it, a three-master with a deck load of lumber was slanting across the southerly wind and reaching for the channel to the open sea. Marks watched her critically. "She'll never make it," he decided. "Have to anchor—unless the wind changes."

But his thoughts were not with the three-master.

He had come out to the motor-dory's moorings in the Peanut, and the Peanut lay at the mooring when he returned. He made the dory fast, climbed into the little craft, and rowed choppily to the shore below Hobart's cottage. Anne Marshall and Mrs. Marshall were on the veranda of the Outpost, and he waved his hand to them by way of thanks for the motor-dory, and then landed on Hobart's beach. Hobart and Eben Scour were on the veranda there together, and Hobart was scowling. Eben Scour wore a habitual scowl, it never changed. There was a tension in the atmosphere which told Marks the two had been on the verge of an open quarrel.

"Got her there," he reported quietly.

"Dr. Snow say anything more?" Hobart asked. "I suppose I'll have to go and testify at an inquest or something."

"Says the bullet was probably a Mauser—and that the Mauser is the German military rifle."

"What's that got to do with it?" Hobart asked. "Any one might have one."

"The Mauser is also used in the navy—German navy," Scour remarked quietly. Hobart shifted in his chair to look at him, and Marks, too, eyed the little lame man.

(Turn to Page 20)

The Branding Iron

Applied by Elias M. Ammons

Breaking new land is not the only way and often is not even the best way to increase crop production. Help has been scarce since the war began and will be much scarcer after the new draft in ages from 18 to 45 is made. In spite of the withdrawal of a large amount of the most capable help last year from the farm our production increased 60 per cent over the preceding season. We have had still greater withdrawals this year and will still be able to make a substantial increase over that of last year. Much of this, of course, has been done in the breaking of new ground. On the other hand, a great deal has been accomplished by better farm methods. Colorado has always held the record on average yields in wheat and we will not only maintain that record but it should be very much higher than it has in the past. There has been too great a tendency in the past for men to plant as many acres as possible, without regard to whether they could take proper care of it or not. This has resulted in very small yields: in some instances total failures. Indeed, the whole country is just waking up to the necessity for better farming. Cheap farm labor with easy access to market is fast disappearing, and slipshod methods, with the present high cost of labor and materials cannot longer be profitably employed in growing crops. This situation has been recognized by the federal government, by all of the agricultural colleges and extension workers thruout the country and the great campaign in the future should be for more economic methods in farming.

Colorado and the other so-called public land states has immense areas which can be added to our farm lands, but all of these states have also enormous tracts of land which should not be broken at the present time, at least. These lands are covered with native grasses which are today the shortest of all of our crops in the country and which are absolutely essential to keep down the cost of livestock production. With help so scarce, not only machinery (which is itself very expensive) must be used, but every producer must also use the utmost care in securing high yields on the ground to be cultivated.

* * *

Another matter of importance is the new settler. We have the educational machinery, thru the co-operation of the federal and state governments, to help the new comer in western farming, and the family will need but little hired help outside of its own members and may secure splendid returns for its work. In spite of the high prices of all products, land has increased very little in value and can be bought in nearly all sections at a most reasonable price and on easy terms. Every effort, therefore of our immigration departments and chambers of commerce should be directed to bringing families seeking new locations to our own farm lands. It matters not what kind of production they can best make, prices will be very remunerative. There is not a single line in which production is equal to the demand; even poultry and eggs are at an extremely high price and with natural conditions the very best of our farms should be able to grow the feed and supply plenty of poultry and eggs to relieve the demand for meats which can be sent abroad.

Milk production, which has fallen very largely into the hands of the large producer, can be profitably maintained among the smaller farmers along all lines of transportation. Every family can grow the feed to raise some hogs and should do so, not alone because it will help materially the war situation, but because it will bring very profitable returns to the grower. We must not depend longer on shipping grain from the East to finish our cattle and lambs for market; we must grow the substitutes here and not only relieve the unusual demand for the grain, but add to the beef and maintain production with a profit to ourselves and a benefit to every one else concerned.

The greatest field for development today lies in bringing good farming families to our lands and our best efforts should be directed to this purpose. In meeting the situation we will not only be doing the thing most needed to win the war, but we will be doing permanent future good to every locality and to every business in the state.

* * *

When we read in letters from the boys in France that they have plenty of good things to eat we can't help feeling gratified that we have been able to bring this about at the expense of only a little inconvenience at home.

* * *

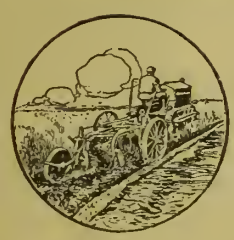
A lot of articles printed about wearing certain kinds of hats and clothes to protect the wearer against being shot during the approaching deer season are pure nonsense. The law permits only the killing of deer with horns. To comply with its provisions the hunter must not only know he is shooting at a deer, but he must see it plainly enough to know it has horns. Where this game is to be found there are cattle and horses and elk and mountain sheep, in addition to people, and the fellow who shoots at any object he does not see clearly is guilty of criminal carelessness for which he should be made to pay dearly.

Strip Farms of Horses

After the present harvest is gathered French farms are to be almost stripped of horses suitable for military purposes. The requisitioning of horses has already caused farmers a great deal of hardship, and altho this measure is necessary to supply the army it is being done with the greatest consideration possible. Farmers possessing only one horse are not to be deprived of their animals. Requisitioning committees have been instructed also to take only a certain proportion of the animals of others, and most of the horses selected are not to be removed from farms until after the crops are gathered.

The rapidly decreasing animal power of France will demand still greater human efforts of the war-weary populations, and especially of the women and crippled men who are now operating most of the farms. Such conditions emphasize the need for throwing the full military and agricultural strength of America into the war to win it as quickly as possible.

The Farm Labor Army *de*creases as the National Army *in*creases



In spite of the labor shortage *more* food must be produced—*more* acreage must be put under cultivation. *More* work must be done by *fewer* men.

There is just one solution,—machinery must fill the gaps in the ranks of farm labor.

Tractors must be used—thousands of them—tractors that will actually *do* the things you *want* a tractor to do—tractors that will work on practically *any* kind of ground—in *any* part of the country.

These are exacting demands but Cleveland tractors by the thousands are meeting them effectively.

They are producing food—in larger quantities than ever before—*and are consuming none of it.*

They are plowing 3½ miles an hour, eight to ten acres a day and under medium soil conditions are pulling two fourteen inch bottoms. This is equal to the work of three men and three good three-horse teams.

And the work is not only done faster but *better* with the Cleveland.

The Cleveland is an all-purpose tractor that does a wider range of work than is possible with other types. It is the tractor that works successfully on the side hill.

It plows, harrows, sows and reaps. It hauls, does grading and road work, cuts ensilage and does the hundred and one odd jobs which are always to be done about the farm.

It is tractor and stationary engine in one.

The Cleveland is built on the same principle as the giant battle "tanks." It crawls on its own tracks, laying them down and picking them up as it goes along. It will work practically anywhere—over rough ground, ditches and hummocks, close up to fence corners, and under small trees.

With 600 square inches of traction surface, it goes through sand, gravel, gumbo, mud and even wet clay. It travels over the newly plowed ground without packing the soil.

The Cleveland is only 96 inches long, 52 inches high and 50 inches wide. It can easily be operated by one man and can be housed in less space than is required for a single horse. It weighs less than 3200 pounds.

Yet in spite of its small size the Cleveland develops twelve horsepower at the drawbar and twenty at the pulley.

The Cleveland Tractor was designed by Rollin H. White, the well-known automotive engineer, and is built under his personal supervision. Only the best materials are used throughout. Tracks and gears are protected from dirt and dust, and the track sections are joined by hardened steel pins which have their bearings in hardened steel bushings.

Every farmer can fill up the gaps in the ranks of his farm labor *profitably*—can help the nation meet the food crisis *profitably*—by installing one or more Cleveland Tractors *now*.

Speed up *your* production. Make more money. Write us for complete information and the name of the nearest Cleveland dealer.

The Cleveland Tractor Co.

19073 Euclid Avenue **Cleveland, Ohio**

The largest producer of crawler-type tractors in the world

Cleveland Tractor

The National Western Ram Sale

OFFERINGS FINE BUT WEATHER CONDITIONS BAD

CHARLES I. BRAY

IN SPITE of bad weather conditions, the first National Western ram sale Denver was a credit to the managers, and a great boost to the sheep industry of the state. Being the first of its kind in the state it was not to be expected that the sale would be as great an event as we confidently expect it to be in the future. The first three days of the sale it rained, which circumstance had a depressing effect on sales, and undoubtedly kept away many purchasers. Colorado buyers were not present in as large numbers as they should have been, but some good buyers were present from both Wyoming and New Mexici.

It was an excellent lot of sheep that filled the stalls around the auditorium awaiting the word of the auctioneer, Secretary Dwight Lincoln of the Rambouillet Sheep Breeders' association, and an ardent friend of the sheep no matter of what breer. Walnut Hall han a fine bunch of Hampshires as usual, while Anoka Farms had a large exhibit of Shropshires, Cotswolds and Hampshires. Robson was present from Ontario with Cotswolds, which showed consinerable class. In Rambouillets, King Bros. were present from their different ranches at Laramie, Cheyenne and Monte Vista. C. P. Raup of Springfield, Ohio, and Jno. E. Webb of Indianapolis, Ind., had a large consignment of Rambouillets.

Colorado breeders were represented by R. Eggleston, breeder of Shropshires, and Judge A. W. Rucker, Hampshire breeder, both from Mount Morrison with good consignments. Harry Petrie of Golden also sent Hampshires. The Mountain Home Farm from Drake brought Shropshires, and Loesch Bros. of Montrose sent Rambohillets. Colorano Agricultural college had an exhibit of ram lambs of various breeds. Two features of interest were supplied by King Bros. Corriedales and the Karakule exhibit shown by Alex Albright of Dundee, Texas.

No sensational prices were bir, which may be considered a healthy sign rather than otherwise. Prices paid ranged as high as $550.

Owing to reasons mentioned above the bidding was slow at times, and an occasional animal was taken out unsold. Those who were there to buy got good bargains, and this may do much to advertise the sale for another year. There was a little disappointment on the part of some of the big breeders, who felt that they might have sold their stock at higher prices under different conditions.

Several reasons may be given why prices were not higher. First, the sale was more of a stud ram sale than present conditions warrant. The purebred sheep industry of the state is undeveloped and few have the purebred ewe flocks that would warrant the purchase of many high-priced bucks. What Colorado sheep men need most to get them started is consignments of medium priced purebred ewes. Let the Colorado breeder get started in the production of purebred rams and he will be more willing to buy valuable bucks. The range sheep man is not going to pay high prices for exhibition rams to turn on the range with common ewes. A cheaper class of rams in groups of from 10 to 100 was more what the buyers were looking for.

Hampsuires and Rambouillets were the breeds most in demand, being favorites with the range men. The Shropshires sold low, not for any lack of value, but because they are not best for range conditions. When the Eastern Colorado farmer begins to put sheep on his farm, the Shropshire will come into its own, as it is deservedly the most popular farm sheep known. There were, however, not enough farm buyers present to take all the Shropshires offered. Mr. R. Eggleston's Shropshires sold very well, being complimented highly by Shrop men present. Anoka Farms bought one of Eggleston's rams to show at the International in Chicago, while Mr. Eggleston bought two good imported rams for his own flock.

The suggestion was made several times that the sale was a little early and too close to the Salt Lake sale. The range men were not ready to buy rams as their flocks were still on the forest reserves and in many cases could not come to the sale for that reason. The announcement was made by Secretary Fred Johnson that the sale next year would begin September 30th. This we think was a wise move. The sale next year should be a much greater success. Colorado breeders have got to get a start. More educational work is needed between now and next year to increase the use of better rams for the range. Advertising will need to be more systematic and extensive before the next sale. We must not only announce a ram sale, but must show its value to the sheep man and see that every sheep man knows about it.

We believe the value of better breeding will be demonstrated this year when the returns from wool come in after impartial grading by government buyers. When the range men begin to breed scientifically for greater wool production there will be more incentive for Colorado breeders to produce the purebred bucks they need. And when the breeders begin to get the prices they must get to encourage them to handle more purebred stuff then the demand for stud rams and high-priced ewes will make the National Western sheep sale the success it deserves to be.

In 1917 about 100,000 truckloads of hay and straw were secured by Germans in occupied portions of France and Belgium.

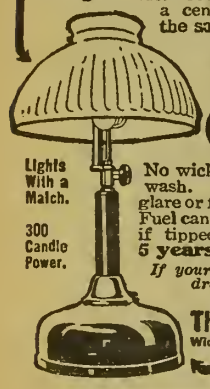
More Light Than 20 Oil Lamps

AT LAST—the light of lights—A beautiful lamp that lights with common matches just like oil lamp, but makes and burns its own gas from common gasoline, giving a brilliant, steady, restful, white light of 300 candle power.

Most Brilliant Light Made

Brighter than the brightest electricity. More light than 20 oil lamps. Cheapest and best light made. Costs less than one-third of a cent per hour. Safer than the safest oil lamp. The

Coleman Quick-Lite



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No wicks to trim—no globes to wash. No dirt, no grease, no glare or flicker. Absolutely safe. Fuel can't spill—no danger even if tipped over. **Guaranteed 5 years**—will last a lifetime.

If your dealer can't supply, address nearest office for Catalog No. 55.

The Coleman Lamp Co.
Wichita, Dallas, St. Paul, Chicago, Toledo.

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will reduce inflamed, swollen Joints, Sprains, Bruises, Soft Bunches; Heals Boils, Poll Evil, Quittor, Fistula and infected sores quickly as it is a positive antiseptic and germicide. Pleasant to use; does not blister or remove the hair, and you can work the horse. $2.50 per bottle, delivered. Book 7 R free.

ABSORBINE, JR., the antiseptic liniment for mankind, reduces Painful, Swollen Veins, Wens, Strains, Bruises; stops pain and inflammation. Price $1.25 per bottle at dealers or delivered. Will tell you more if you write. Liberal Trial Bottle for 10c in stamps.

W. F. YOUNG, P. D. F., 155 Temple St., Springfield, Mass.

Big Money in Running Water

Let us start you in business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an

Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

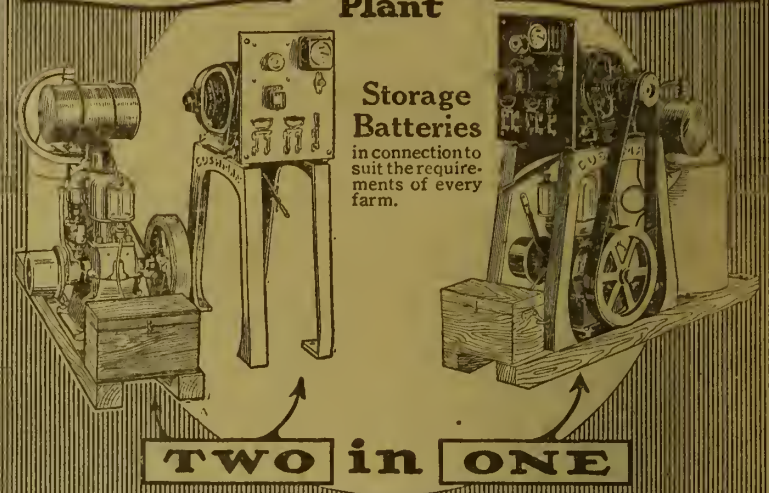
There is a big demand for wells to water stock and for irrigation.

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co. Box 943 Clarinda, Iowa

Cushman "Does-More" Light Plant

Light The Unit Belt Type Electric Lighting Plant **and Power** The Standard 4 H.P. All Purpose Power Plant **in One Plant**



Storage Batteries in connection to suit the requirements of every farm.

TWO in ONE

Picture on left shows Outfit divided into Power Plant and Light Plant. Power Plant consists of 4 H. P. Cushman Engine on skids, with Cooling Tank and Gas Tank. Light Plant consists of Generator and Switchboard, mounted on frame designed to set on skids of Power Plant; also Storage Batteries.

Picture on right shows complete unit belted for electric light service.

Why the Cushman "Does More"

It does more because it gives you both portable Light and portable Power in one plant, in the most compact, efficient and convenient form ever devised.

It does more because there is less vibration with a belted outfit like the Cushman, and consequently less adjustments, repairs and service are required.

It does more because every part is get-at-able. It is not necessary to "tear down" the plant to correct any trouble.

It does more because the same engine—the 4 H. P. Cushman All-Purpose Engine—may be used for work all over the farm, or be attached to binder, potato digger, corn binder or other machines.

It does more because other machinery may be run from clutch pulley of engine at the same time the batteries are being charged by belt over fly-wheel. It is the most flexible outfit.

The Cushman Self-Starter permits the Cushman Plant to be started, stopped and operated by a woman or child. It is the only starter that automatically releases engine compression and turns on and off oil. Engine started from switchboard, by pushing a button.

"Best on the Market"

J. R. French, Marcus, Ia., writes: "The Cushman Lighting Plant, with its self-starting attachment, is without question the best plant on the market. Have used one over two years. A woman can operate it just as well as a man."

Uncle Sam Uses 66 Cushman Outfits

Government Engineers, after careful tests, chose 66 Cushman Electric Power Plants for use at various Army Posts in this country and abroad.

Cushman Steady Power gives clear, steady lights. This is very important, for engine vibration damages generator and storage batteries, and soon causes trouble. Cushman Engines are very satisfactory for electric lighting outfits, because they run so steadily and quietly. Plant comes fully charged and ready to run. Send for Catalog No. 52.

CUSHMAN MOTOR WORKS
996 N. 21st Street Lincoln, Nebraska

Cushman Double Cylinder Motors give a service the tractor cannot give, and no other farm engine compares with them in equipment. 8 H. P. weighs only 320 lbs., 15 H. P. only 780 lbs. and 20 H. P. only 1200 lbs. (269)

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BIG OFFERS

WESTERN FARM LIFE

Denver, Colo.

More Barley for High Altitudes

ADVANTAGES OF CROP FOR FEED AND BREAD

T. S. PARSONS
Extension Agronomist, University of Wyoming

BARLEY is one of the most ancient of cultivated plants. One of its ancestors may still be found growing in the wild state in the region bound by the Red sea, the Caucasus mountains and the Caspian sea. This wild barley is much like our two-rowed barley of the present day; the six-rowed variety, however, was the most anciently cultivated. The six-rowed barley has been found in the earliest Egyptian monuments and in the ruins of the Lake Dwellers in Switzerland; and Carlton says that this barley was the only one existing in India at the close of the eighteenth century.

Barley attains the highest altitude and latitude of any of the cultivated grains. Carlton reports barley grown up to 70 degrees north latitude in Norway, and up to the Arctic Circle in Russia. Barley of quite different variety and character grows on the tropical plains of the Ganges in India, and in the hot district of Africa near the equator. Carlton again reports barley growing up to the altitude of 13,000 feet in Peru, and up to 15,000 feet in Thibet. Some years ago the writer grew a large number of varieties of barley from various parts of the world. One variety of black barley was received from the mountain section of Colorado where it had been grown at an altitude of more than 11,000 feet. Other varieties were received from Abyssinia, Turkestan, Australia, Alaska and South America. The varieties of barley showed the diversity of the character and habits of the plant. It is the most frequently mentioned of all the cereals in the Old Testament and was probably used for bread making long before wheat.

Since the beginning of the present wheat saving campaign barley has been extensively used as a wheat flour substitute. It is not extremely popular as a bread flour in this country, however. The housewives do not take kindly to it, and some doctors maintain that barley is not a healthful human food. The main trouble, however, has been that the housewives do not understand how to handle the barley flour properly. Where not more than 50 per cent of the barley flour is used along with wheat flour very good bread can be made, and the barley flour is excellent for pancakes, muffins and pie crust when used along with a small amount of other flour to overcome its stickiness. As the nature of barley flour is better understood it will probably become more popular in American households.

It is as a stock food, however, that barley stands pre-eminent. Its hardiness and quick-growing characteristics make it well adapted to the northern and mountain states, where on account of the shortness of the seasons corn cannot be successfully grown. In these sections barley largely takes the place of corn in stockfeeding operations and experiments show that it is about equal to corn in feeding value. The Wyoming station reports barley in the lead where this grain and rye were employed as pig fattening rations. In an experiment where corn and barley were used with oat and pea silage for fattening lambs corn gave slightly better returns, altho there was but little difference in the two. Professor Faville, who had charge of the experiments, said that under the conditions prevailing in many sections of the state either ration ought to produce profitable gains. In the lamb feeding experiments the gains were also slightly in favor of corn with alfalfa, but the feed requirements of all the barley lots were reported to be remarkably uniform whether the barley was fed whole, soaked or cracked. So the experiments would indicate that barley can as well be fed to sheep unground. Barley and corn fed with native hay proved to be of equal value as concentrates for growing heifers. Barley has always given good results in cattle feeding.

Barley matures in a less number of days after planting than oats, and usually gives better yields and brings a higher price on the market. In the dryer sections barley of the best quality for brewing is produced. The uniformity of grains and the bright color required in high class brewing barley are produced here to the highest stage of perfection. The brewing properties, however cut no figure now as brewing ceases December 1, under a war prohibition order. This does not matter, however, as the best brewing barley makes the best feeding barley. The high price received for barley for the last year or more makes this crop an attractive one to grow, and since the government has not fixed the price there will doubtless be as large an acreage planted next year as is consistent with the increased acreage of wheat.

The best soil for barley is a well drained, rather fertile loam. It does well on heavy clay if plenty of barnyard manure is added, and it will stand more alkali than any of the other small grains. Barnyard manure is probably the best fertilizer for barley. At the Wyoming station the manure was spread on the ground and plowed under when spring plowing was done. When plowing was done in the fall the manure was spread evenly on the surface and disked in before seeding in the spring. Apparently similar results were obtained in either case. The manure rots rapidly in the soil under irrigated conditions. On the dry farm it is usually better to use the manure as a top dressing.

The seed bed for barley should be loose on the surface and the soil well settled below. It is easier to obtain this condition with fall plowing. If the land has been in a cultivated crop and is free from weeds, disking and harrowing will be sufficient preparation for the crop. This method, however, has not been found as good for barley as for oats. It is generally better practice to plow for barley. Fall plowing should be disked and harrowed thoroly as soon as the frost is out in the spring. The operations should be repeated as often as necessary until seeding time. This conserves moisture and kills the weeds as they germinate. The seeding should not be done too early. Later sowing permits better preparation of the seed bed and better crops are obtained as a result.

It is necessary to clean and grade barley seed if the best crops are to be grown. The seeds of the six-rowed varieties vary considerably in size, and if the planting is to be even these small seeds must be screened out. This is not so important in the two-rowed varieties as the seeds are more uniform in size. The largest, plumpest seeds should be sown in order that there may be quick germination, strong growth and even stand.

Smut is troublesome in barley, therefore the seed should be treated. The formaldehyde treatment is sufficient for the covered smut. The treatment consists in soaking the seed in a solution of one pint of formaldehyde in 40 gallons of water for a period of 15 minutes, or the grain may be spread upon a clean floor and sprayed with the formaldehyde and covered with a canvas and allowed to "steam" for several hours. The loose smut can only be killed by the hot water treatment. This must be carefully done, and should only be undertaken by one who understands the method thoroly.

The barley crop should be drilled in, as broadcasting does not give as good results. The rate of seeding varies in different localities. Forty or fifty pounds per acre is usually considered sufficient on the dry farm. Under irrigated conditions 80 to 100 pounds per acre is sown. Lighter sowing, however, gives larger heads and plumper kernels of grain. Fifty pounds per acre under good conditions has been found to give as good results as one hundred pounds.

Barley fits well into the crop rotation, occupying about the same place as oats. It is a good crop to follow corn or other cultivated crop or alfalfa. It also does well when grown after a crop of field peas. Beardless barley is used along with field peas as a crop for hogging down and is good for this purpose.

Carey-ized
STOCK TONIC BRICK BLOCK

Relieve yourself of worry about the health of your live stock; do away with the troublesome, uncertain dosing and drenching. Your animals will "doctor themselves" as instinct directs when they have access to Carey-ized Stock Tonic Block or Brick.

Try It for 60 Days Entirely At Our Risk

Place a Brick or a Block of Carey-ized Stock Tonic in your feed lot or pasture for 60 days. Let your hogs, cattle, sheep and horses have free access to it according to directions. If, at the end of that time, your stock is not in better condition — free from worms and disease, making bigger weight gains from the same amount of feed—or if *for any reason* you are dissatisfied with this tonic, return the remainder to your dealer. He will promptly refund every cent you have paid for it—including carrying charges, if any.

This broad guarantee protects you perfectly and relieves you of all risk. Ask your banker concerning our reliability.

Cut Down Chances Of Live Stock Loss

Every day your live stock is exposed to disease in some form—worms, digestional troubles, cholera, etc. Every day you are losing money if your animals are not making maximum gains from the expensive feed they consume.

Insure your hogs, cattle, sheep and horses against worms and disease, against imperfect, wasteful digestion, slow fattening and low prices in late markets. Let your animals have access to Carey-ized Stock Tonic, supplying them in pure form with the tonic and mineral substances they crave and demand for sound health, quick, rugged growth and complete feed assimilation.

Carey-ized Stock Tonic is compressed to a density that weather and time can not weaken in medicinal strength. It is manufactured in 3-pound bricks for stall and pen feeding, and 50-pound blocks for pasture, range or feed-lot purposes. Just place it in your feed boxes or feed lot—animals partake of it as nature demands without bother to you.

A Guaranteed Worm Destroyer and Conditioner for All Live Stock

Carey-ized Stock Tonic Block and Brick are composed of sodium chloride (salt), iron sulphate, quassia, powdered gentian root, carbonized peat, sulphur, charcoal and bi-carbonate of soda—all the best known, highest recommended tonics, minerals and worm destroyers of greatest veterinary authority.

Sold by General Stores, Feed and Hardware Stores, Druggists and Grocers, under our guarantee and 60-day trial offer as above outlined. If your dealer can not supply you, send us his name (no money) and we will send him for you 12 bricks, 35 pounds, at $2.50 f. o. b. Hutchinson, or a 50-pound block $3.00. Or, if you prefer, send us the amounts (P.O. order or check) and we will send you the goods direct, freight charges collect. If at the end of 60 days you are not satisfied, having fed according to directions on the wrapper, we will refund all your money, including all freight charges.

The Carey Salt Company
Dept. 251 Hutchinson, Kansas

Please send me full information on Carey-ized Stock Tonic Brick and Block; also free book "Making Live Stock Pay." (251)
I have.....hogs,.....cows,
.....sheep,.....horses.
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My name.....
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A New Mexico Plains Calf Club

HOW 46 YOUNGSTERS ARE LEARNING DAIRYING

Some of the Members of the Union County Calf Club

THAT forty-six Holstein calves could be distributed in one sparsely settled community of a dry-farming country in New Mexico as a practical undertaking hardly seems feasible. Such is the case, however, and today forty-six members of the Union county calf club are the proud possessors of a calf each. Thru the help of Mr. Orren Beaty, county agricultural agent, it was possible for this club to work out the plan for procuring these calves. The county agent knew that a number of wealthy men were making a practice of loaning money to boys and girls for the purchase of high-grade and pure-bred livestock. He wrote one of these men and asked if he would finance the proposition. Immediately notes were returned to the county agent to be signed by those desiring to purchase calves. The county agent in the meantime found that calves from six to ten weeks old and from 7/8 to 31/32 pure-bred could be purchased from a Holstein breeder in Whitewater, Wisconsin, for $25 each, delivered. An order was placed and the calves arrived at Des Moines, New Mexico, on the eleventh of June.

Raise Crops to Pay for Calves

The business man naturally asks whether or not these boys and girls will pay for the calves. Of course they will. Every note will be redeemed when the time expires. To meet payment each boy and girl is raising at least an acre of beans, kafir corn, milo maize, broom corn, or some other crop from which enough produce will be sold to pay for the calf, and in most instances have feed on hand for the winter.

There are two outstanding features connected with the importation of these dairy calves. The first one is the size of this club. This club is one of the largest in the United States and perhaps the largest, if based on the population of the several states. It would be difficult for the people of the more densely populated states to realize and appreciate the distances that these children have to travel to attend club meetings, or, amount of traveling that the county agent had to do in this sparsely settled section to interest these boys and girls in the venture.

The second item which is of singular importance is the shipping of dairy stock into dry-farming sections of a western state. Had they shipped in white-faced Hereford calves nothing would have been thought of it, because it is a common sight to see Hereford cattle roaming about over the ranges of New Mexico. But what are the possibilities of dairying in a section where the annual rainfall is from 16 to 18 inches, and such crops as wheat, broomcorn, pinto beans, cane, kafir and milo are grown?

The importation of fine Holstein calves would not have been fostered by either the county agent nor the parents of these children had it not been feasible. They have found, thru experience and observation, that the practice of raising crops and hauling them to market, taking whatever price they were offered, is not a profitable one. They have also found that it is just as necessary to diversify their operations under dry-farming as it is under more humid conditions or even under irrigation, and that livestock must play an important part in the general agricultural program, if they are to be successful.

A few handled small bunches of Herefords on their 320-acre homesteads. Others tried a few mixed dairy cows. It was soon an established fact that the farmer of this section could better afford to handle a few good dairy cows

$100 to $300 a Month

Can easily be earned by mechanically trained men. We teach you how to get and hold the better positions, such as foremen, superintendents, managers, etc., or to start an Auto, Tractor and Truck Agency and Repair Shop for yourself.

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We teach you in eight weeks how to operate and repair any Automobile, Tractor, Truck or Gas Engine, and to be an Expert Welder. If you go into the Army, we fit you to hold mechanical positions paying up to $145 a month.

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SPECIAL NOTICE

Due to the volume of our business and the co-operation of our customers, we have been able to reduce the cost of production of the Original Kansas Germ Free Fluid Vaccine made by Dr. O. M. Franklin, and are therefore giving the consumer the benefit of that reduction.

Hereafter the regular price of this vaccine will be 40 cents per dose.

To those who are not familiar with our product, and to show that we have every confidence in our vaccine, we will give a written guarantee that it will save every calf from blackleg. The price with this written guarantee is 50 cents per dose.

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than to keep range cows just for the natural increase of the herd. The handling of registered Hereford cattle would be profitable, but considerable capital is needed to get a fair start in this business.

The dairy cow is held in high regard in this section. The dairy cow population is on the increase. She has once more proven her worth in building up a permanent agriculture. The farmer with 320 acres cultivates from 60 to 120 acres and uses the remainder for his dairy cows and other stock, such as work horses. His cash crops are pinto beans, wheat, broom-corn and butterfat. The market for these commodities is well established. The corn, milo, kafir and cane supply the grain needs and fill the pit silos, thus providing succulent feed for the cows during the winter and early spring months. Over 50 per cent. of the fodder of these crops was wasted in the past. There is no cash market for this fodder either. This is where the dairy cow fits into the general farming scheme to advantage. Such legumes as alfalfa and cowpeas are being introduced in this section and will help materially in balancing the feeding ration for the cows. The principal elements of plant food that were removed by the crops are now returned to the soil in the barnyard manure, thus maintaining its fertility and insuring the owner against low crop yields.

There have been failures in many of the dry-farming sections, and, it must still be borne in mind that the rainfall is, after all, the determining factor in the success or failure of farming in the Great Plains area. There are bound to be seasons of insufficient rainfall that will make crop production difficult even with the best dry-farming methods. However, time has clearly demonstrated that the farmer with good dairy cows and pit silos will get thru the lean years much better than he who just farms and sells his crops.

The dairy cow has made it possible for many of the pioneers to develop their farms, build improvements and establish comfortable homes. In a community of such farmers there are good schools and churches.

What the dairy cow is doing in this particular section of the Great Plains area she will also do elsewhere. This will result in a tremendous growth of the dairy industry.

It is perhaps clear now why 46 boys and girls in a dry-farming section of New Mexico imported Holstein calves from Wisconsin.

The Manchurian Bean Bugaboo

Last winter when the pinto bean market hit bottom one of the reasons for the unwarranted decline in price was that large shipments of Manchurian beans were booked for the American trade. These shipments came. The beans were of inferior quality grown by oriental labor, with which the American farmer cannot compete.

Recently we again heard whisperings to the effect that shipments from the Orient were probable and that the army purchases would be made at low figures, in view of prospective Japanese importations which would again bear the market. Further, we were informed that these importations were necessary "for diplomatic reasons," the inference being that our government desired to sugar a Japanese plum.

We wish to strip this story of all camouflage and put it down as a speculator's yarn. It is true that beans grown in Manchuria by Japanese capitalists are again seeking an American outlet, but there is no reason to believe that the government of the United States is in any way interested in the transaction, diplomatically or otherwise. It is not necessary to refer the matter to Washington for confirmation or denial. It would be an impeachment of the intelligence of our department of state to suspect it of mixing diplomacy and beans. What is entirely likely is that certain American capitalists are financially interested in Manchurian bean growing and that it is American money that is paying coolie labor for attempted competition with American farmers.

California growers have already taken this matter up with the United States Food Administration, in the effort to prevent adverse effect on the American bean crop. This is a question for Congress to consider immediately after the close of the war. The same issues are involved that have repeatedly arisen in connection with attempts to import oriental labor into the western states. Farmers must protect their interests in this matter, not only in regard to beans, but also in regard to the grain sorghums, which have been coming to our Pacific shores in recent years by Japanese ships, and laid down here at figures with which the American producer cannot compete. There is a barrier between the civilization standards of the East and West that must be reckoned with in the enactment of protective legislation.

He Isn't a Quitter

Eighteen to forty-five will grab the editor and manager of this emporium of wisdom and we are not blessed with unlimited funds to keep a wife and family, but the residents of this city can go without a paper and we are not asking exemption—we want to go. Yep, the "scoop" and printers also are minus a suit—so they'll grab the chance to take on khaki. Nobody will quit.—Durango Democrat.

U. S. Beet Sugar Outlook

Need for additional sugar conservation in the United States is reflected by estimates of our domestic beet sugar crop this year. After securing and averaging estimates from the three most trustworthy sources available the Food Administration finds a probable decrease in domestic beet sugar production of 5.2 per cent compared with last year. This represents about 38,174 tons of sugar less than in 1917.

Farmer Putnam on Silos

Ezry Pullet went trappin' fur coyotes last week and the trap slipped and caught a skunk. Ezry sez he's glad he's over the draft age, because he now knows what it means to fight the Huns.

I reckon about the best thing, next to machine guns and tanks fur fightin' Huns, is a silo. It's built like a trench mortar, only higher or deeper. Filled to the brim with corn slaw it keeps the milk flow comin' thru the winter, or cuts the grain ration in fattenin' steers.—Thomas Jefferson Putnam.

Farmer Putnam ought to know the value of silos, for he had one on his farm near Stockbridge, Mo., a number of years ago. When the war broke out he told Josephine he was going to enlist with the British army and leave her and the boys behind in perfect safety, because he intended to fortify the silo. Josephine, sensible old girl that she is, persuaded Put to change his notion, on the ground that the best fortified silo is that which is filled with fragrant corn ensilage, doing its duty in beef or milk making. Josephine was right. There should be a silo on every farm in Colorado.

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ELIAS M. AMMONS.....President
W. S. EDMISTON.....General Manager
ALVIN T. STEINEL..Managing Editor

DEPARTMENT EDITORS

E. R. PARSONS.....Dry Farming
GEO. E. MORTON..Dairying and Hogs
W. E. VAPLON.....Poultry Raising

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Tremendous Weed Losses

The tremendous losses from weeds, especially in the dry land sections of the West, threatening in time to cause the ruin of millions of acres of productive land, must be stopped by drastic means. There is talk of a weed law in some of the states that are suffering most. In Colorado and Idaho a step in the right direction is the enactment of pure seed legislation. This will serve to prevent further importation of weed adulterated farm seeds, but it will not eradicate the weeds that have already made such a start in some sections that they take half the moisture intended for crops, usurp much land that should be in grain and give us on the balance of the land a very poor quality of mixed grain that suffers serious dockage at the elevator.

In order to bring the importance of this subject to the attention of our grain growing farmers we shall publish a series of articles during the fall and winter by Dr. W. W. Robbins, botanist of the Colorado State Experiment station, who has made a study of the weed problem. He will give us details about the most pernicious weeds, describing their habits of growth and the best methods of eradication. As the series develops comment is invited from our readers and questions are welcomed. Let us have your problems in the weed line and your suggestions as to the best means of solving them. The trouble is by no means confined to our dry land grain territory; it is equally pressing in the irrigated districts, where the ditches carry weed contamination from farm to farm, performing the task that the winds do on the dry plains. Our alfalfa fields in some sections, particularly in Southern Colorado, are showing the effects of weed infestation.

There is no reason for holding our hands and giving up to the weeds. It will take a fight to reduce the losses and get the worst weeds under control, but it will pay, even if we have to go to the extent of enacting stringent laws on the subject, as has been done in some states. We believe that every farmer will find Dr. Robbins' articles interesting and helpful. The first of the series will probably appear in the issue of October 15.

* * *

Deep Plowing as a Religion

We have been steadily preaching deep plowing for several years, thru the articles on dry land farming by Mr. E. R. Parsons. Now and then we hear from a farmer who says it does not pay, but most of the evidence is to the effect that it pays big, when done at the right time and in the right way. Deep plowing means ten to twelve inches. Now comes a bit of evidence from Las Animas county, Colorado, where County Agriculturist Charles E. Smith has been advocating deep plowing as the safest plan. In his report to State Leader Lovett, Mr. Smith says:

"Demonstrations showing the difference between deep tilled land and shallow tilled are going on practically all the time in the Villagreen section. Practically the whole neighborhood is converted to deep tillage, as the evidence of deep tillage, as compared with ordinary spring plowing, is so striking that no one can escape the truth. This is proving to be the greatest success that the county agent's office, thru the Farm clubs, has secured, and yet it would be hard to check up on it in dollars and cents. Three years ago the county agent and the few who dared to advocate deep plowing were laughed at as being visionary. Now some of the same men are trying every way to get the power to plow twelve inches deep and it is becoming almost a religion in that part of the county."

✦ ✦ ✦

Better Seed Campaign

Smut in wheat and oats and other preventable plant diseases together with the planting of unclean or weak seeds costs the farmers of the Rocky Mountain region many millions of dollars annually. This loss, under the present urgency of food production so necessary to win the war, is little short of criminal. In normal times the loss might have been excused because it was largely a personal one, and the farmer who planted untreated, untested or uncleaned seed was the chief sufferer. There is however, another side to the question, especially as it relates to the planting of adulterated seed which has resulted in reducing our dry land grain yields enormously thru the weed nuisance. And for this the farmer was not so much to blame as the seed dealer, who until recently, was not obliged to specify on the label the percentage of weed seeds contained in a sack of seed.

At the instance of the farmers, the state of Colorado has enacted a pure seed law which is reducing the loss from the sowing of adulterated seeds and which has opened to the farmer a way by which he can have his seed tested at the expense of the state, if he will only go to the trouble of sending a proper sample to the State Seed Laboratory at Fort Collins. There is nothing complicated about seed testing. It can be done on the farm, often by the boys and girls, who thus are able to aid in making the farm more productive.

Treatment for smut in the various grains must be done by the farmer just before planting, and this too is a simple operation and not a costly one. The results more than pay for the efforts. Farmers sometimes make the statement that they have treated their wheat for smut and noticed no difference; that the heads smutted just the same and that sometimes untreated wheat did not show smut. Neither of these arguments will hold water. The efficacy of the formaldehyde and blue vitriol treatments for smut prevention has been established. When these treatments fail to prevent smut ,or at least to cut down the smut to the very minimum, it is because the solution was not properly mixed or not properly applied. And when untreated fields show no smut it is merely a fortunate circumstance and by no means proof of the uselessness of smut prevention.

Hundreds of Colorado farmers this fall signed the seed pledge card, promising to treat, test and clean their seed before planting. This is in line with a general campaign that will be continued thru the county agents all winter and until planting time next spring.

Western Farm Life will help in this campaign by answering questions on the subject, furnishing the seed treatment formulas and advising Colorado farmers as to how they may have seeds tested by the State Seed Laboratory at Fort Collins. Address your letters of inquiry to Western Farm Life Service Bureau, Denver, Colo.

* * *

A Discriminating Pest

The beet web worm seems to be a discriminating pest, choice in its food selection, according to reports from County Agriculturist C. G. McCord of Morgan county, who says: "The beet web worm, after giving us a lot of fright on the dry land, has almost disappeared with very little harm to crops. They destroyed a lot of Russian thistles and gave us all a scare, but taking our experience here as typical, we will not be alarmed again at their appearance."

Just why the web worm should prefer Russian thistles to pinto beans is a matter of conjecture; perhaps the tribe that infested Morgan county was more patriotic than those which ate the sugar beet leaves in other sections. Or, was it because the Russian thistle is a poor and distant relation of the sugar beet? If we could only depend on the beet web worm to do the same thing always we might suggest a major offensive on our Eastern Colorado front by lining up the worms against the Russian thistle nuisance. This Bolsheviki among weeds is taking the heart right out of dry farming by sapping the moisture, besides damaging the quality of crops. How much longer are we going to put up with it?

* * *

War Board Ruling Affects Subscriptions

Stringent regulations have been issued by the War Industries Board to all agricultural publications in the United States governing the quantity of paper to be used, and abolishing the credit system on subscriptions. Each publication must sign a piedge to abide by the economy program.

There is no possible chance for argument over the provisions of the order and no inclination on the part of any legitimate publication, interested in helping our government in this time of emergency, to object to or evade the instructions in the slightest particular.

To carry them out to the letter will require the co-operation of every reader. To merit that co-operation I feel it my duty to make this brief statement. Western Farm Life was founded for the purpose of building up agriculture in the states of Colorado, Wyoming, New Mexico, Utah and Idaho. Three years ago when I assumed the management and chief ownership of this publication, which was a combination of several then existing farm papers, I realized that a long period of building up must be undertaken that would be without profit to myself or the other stockholders. Therefore practically every cent over and above the cost of doing business has gone back into the magazine, in the effort to make it useful to you readers, to give you a western magazine, published by western farm editors, familiar with your conditions, in sympathy with your efforts to establish a new agriculture in these mountain states. I feel that we have only made a bare beginning and that this work, to succeed, must be continued with your aid for a long period of years. In fact, I do not believe we will ever get thru improving. When we do then I will ask you all to stop your subscriptions, because the publication that is satisfied with itself is a dead one. It is like the retired farmer who moves to town to enjoy his hard earned savings. He is out of the game.

Under the new regulations every farm paper must stand on its own merits. It must be valued by the subscriber for what it is and does for him.

We wish to be judged on this basis. For this reason we are planning editorial betterments which will be developed within the next few months, just as quickly as we can get around to them. Every penny that can be spared over and above cost of operation and the purchase of war securities will go back into the magazine for the benefit of the reader. You can see, under the new regulations, which will cut our cost of collections that we shall be able to make a better magazine. If it is not bigger, that is due to paper conservation. What we are aiming for is quality and not quantity.

And now, how can you help? In a dozen ways. First of all by being patient with the new cash regulations, and sending in your money promptly on expiration of your subscription, FOR WE MUST CUT YOUR NAME OFF THE LIST IF WE DO NOT GET YOUR RENEWAL.

Another method by which each reader can do us an immense amount of good is by recommending the paper to his farmer friends and neighbors who are not now our subscribers. I am a farmer myself, know the ins and outs of the game and I want everyone of you to feel that I am publishing this paper for your benefit as well as my own, and I know I cannot succeed from a business standpoint unless I give you value received for your dollars. I feel just as if I had the whole family of fifty thousand readers before me now. I am asking only a little co-operation from each of you, but what a tremendous power we can become, all of us working together for the development of farming in these five states!

So when you look over these pages bear in mind that we have carried the burden of war cost increases, that you have not been charged with one cent of the additional money we are spending for paper, illustrations, editorial service, mailing under the new zone system and the like, and that we do not ask you for anything except the square deal of paying for what you get, in accordance with the regulations of our great and good government. Every mother's son of us is behind Uncle Sam and you as readers know what it means to make things grow to feed the armies, and you are sensible also of the help a good farm paper can give you in wisely directing the course of agriculture.

We have some good things in store for you this fall and winter. Editor Steinel will have one and two articles in each issue telling about the experiences of farmers and stockmen that he meets in his travels out over the state. Mr. E. R. Parsons will continue to contribute regularly his practical articles on dry land farming; Professor Morton, the department on Dairying and Hog Raising; W. E. Vaplon on Profitable Farm Poultry; and the Farm Home Department for the women folks. Then there is our Free Service Bureau. You will find yourself the coming year in need of just such a service—a service that may make and save you many dollars. I know you will not want to miss a single letter from our good old Missouri friend, Farmer Putnam. TRAPPED. A woman spy. This is a thrilling and educational copyrighted book-length war story that is starting in this issue. Western Farm Life is surely getting better with each issue and I am doing all in my power to make it a magazine that will be helpful and of vital interest to each one of you.

Look up the name tag on your copy of Western Farm Life and see how your subscription stands. If your paid subscription has run out or will be out shortly, send in your renewal at once (one year 50c, two years $1.00) without delay. Now. Today. I know I can count on you.

W. S. Edmiston

GENERAL MANAGER.

More on Soil Drifting

Recent discussion of the soil blowing problem in these columns has brot out an interesting letter from a Wyoming farmer, written to Dr. Vernon T. Cooke of Colorado, formerly in charge of dry farming demonstrations for the state of Wyoming. The letter follows:

I see you remember my soil and how it bothered me the first year, and now I am going to tell you just how I managed it. It had been plowed about 30 years previous by a farmer homesteader who never proved up, and consequently was not sodded over thoroly, so I plowed it with a walking turf and stubble mold board plow fully 10 inches deep and drilled in the oats and smoothed my field down nicely (as I would have done in Iowa), contrary to the advice of Mr. Wissoth (a neighbor), who told me to have it as rough as I could to keep the wind from blowing it. I am satisfied that in the next few days four or five inches of that soil was blown away, and as my house was just east of the field, my wife was a very busy woman until about two years afterward, when I got the last of it seeded to brome grass and alfalfa.

I only used that old plow one year, then upon your advice I got a sulky breaker and following your directions further, I plowed deep until 11 a. m., then unhitched my four horses and put them on a 16x16 disc harrow set straight with a 100-pound sack of gravel on each side, and I drove over that newly plowed ground. I found I could pack in one hour what I had plowed in four. And now, greatly to my satisfaction, my land did not blow at all, when I could see great clouds arising from adjoining fields. That packing was the hardest work my horses had to do, but after it was packed the same four walked along easily with a 12-hole drill, and then when the grain was 14 inches high, one morning after a shower of rain, I put two horses on this same disc and unloaded the sacks, drove thru that grain to stir the soil between the drill marks and that grain ripened naturally, altho we got no rain to speak of until it was cut.

And now I want to say that I strictly adhered to that rule of plowing four hours and then packing, the other three years I remained on the farm, and was never bothered a particle by my soil blowing and, altho I had a three-section iron lever drag, I regarded it as a tool not fit for use on my farm and I never hitched to it after that, but the disc harrow is indispensable. Have not farmed any for three years, but can't tell what I may do next year.

Wishing a very enjoyable visit for you at your son's ranch, and hoping to have the pleasure of seeing you here later on, I am as ever—E. L. FARRINGTON.

A decline in production of milk and dairy products in Norway has resulted in rationing skim milk since June 17. Children under 5 years old may have an amount equivalent in United States measure to about 1 1-5 pints. Persons over 15 years old are limited to slightly more than 1-3 pint daily.

The Canadian wheat harvest is estimated at 280,500,000 bushels, about 20 per cent above that of 1917.

Comment by Farmer Putnam

OUR MISSOURI FRIEND ROUSED UP OVER FARM LABOR SITUATION AND WANTS TO CALL MEETING

THIS here farm labor business is gettin' the goat of a lot of us farmers, because we don't see any way outen the trouble till the war is over. We got to fight the war, whether we git anythin' else done or not, and we cain't fight the war onlessen we got food fur the fighters. Them draft boards keeps callin' our boys and the government keeps callin' fur food and bigger crops, and I don't see how we're goin' to provide both. I believe it's got to come to conscriptin' labor fur the farms. I know some of them labor union fellers don't like that kind of talk, but let's not call it conscriptin,' but call it somethin' patriotic and maybe they won't kick.

I was talkin' the other day with a farmer from up near Erie in Weld county and he told me he's had to drop two rented places and keep only his own farm goin' this next year because he cain't git the help. He's been spreading out and raisin' wheat on the rented land, because it's easy to take care of wheat. But now that his son-in-law has gone to the front and he's got to depend on hired help, why he has to let go his leases on the wheat land and try to pull thru on his own farm the best way he kin, with his own boy and girl fur help. I ast him if the hired help he had this fall was any good and he sez that some of it was and some wasn't. The trouble with lots of the hired help is that they don't have no idea of what patriotism is. They don't want to do nuthin' exceptin' just what they're paid fur; nuthin' to help out fur the nation, onlessen the farmer gives 'em extry fur it. When he's already a-payin' the highest rate he ever paid by the day and givin' 'em the highest price grub he ever had to put up fur 'em and then to have 'em kick on doin' a little extry, why it seems that them kind of fellers is too good fur hangin'.

I know of one case where a renter got a job with his team on a threshin' crew. The owner of the farm was the general overseer of the job, but the threshermen hired the crew. On lookin' around over the field just before the thresher was goin' to quit, the owner seen some bundles that had fell off the waggin here and there and he seen one or two whole shocks that hadn't been threshed. So he went to the boss of the crew and told him about it. The boss sez to this hired man with the team settin' thar doin' nuthin':

"Say, Bill, I wish you'd drive over the field and pick up them shocks and bundles that we overlooked."

"I don't pick up after nobody; I didn't leave them bundles in the field and I ain't a-goin' to pick 'em up."

That's the kind of a answer the boss got and the man wouldn't go; he had to send somebody else to pick up the bundles.

Now, I'm here to tell them kind of farm laborers that they is not only unpatriotic, but they ought to be put in jail fur tryin' to interfere with our duty to them boys acrost the water. The boss couldn't fire that feller on the spot, because he cain't pick up men like he used to. He has to pay them fellers top wages and take their sass to boot.

This thing is happenin' every day on our farms and it's gittin' so blamed bad that somethin' has got to be done about it.

Of course I know they is lots of good laborers that does their work well and is patriotic and all that, but I've been hearin' of so many of the other kind in the last few weeks that it makes me think it's time to give 'em a call down. The boys that was sent out by that U. S. Workin' Reserve has turned out well. They're willin' lads and very few of 'em kick on their jobs and the farmers was patient with 'em and in that way they soon learned what they had to do. The trouble is with floatin' labor and with a class of people that don't give a hang about the country, but is lookin' only after the dollar.

We got the bulk of our best farmers registered under the new draft and the same is true about farmhands—what is left of 'em. If I was a kind of a Solomon and knew everything I would give you-all some plan that we could work out this winter so's not to drain all our man power offen the farms, but I'm only human and cain't think of no scheme to lick the Huns, exceptin' to send men over there to do it. It's kind of a compliment to us farmers anyhow to have them draft boards use so many men offen the farms. Whenever they see a big, strappin' farmer they sez: "Oh, joy, here's another one of them huskies from the ranch. Uncle Sam needs him."

It's one of the penalties of our life that we has to look big and strong and healthy, and we git put in the ranks while them durned good-fur-nothin' cigarette smokin' pool hall lizards in town escapes because they ain't physically fit!. Well, I reckon when the history of the war is writ the farmers'll git their share of the glory, but I believe a lot of them town invalids ought to be put to work Over There carryin' water to the fighters. It ain't hardly right to leave 'em Over Here out of all danger, especially when they hain't no good fur farm labor or anythin' else useful.

But on this farm labor business, I'm thinkin' that we had better call a meetin' of all farmers in Colorado this winter to talk it over and see what we're goin' to do next season about crops. We got to keep raisin' the stuff. This war ain't goin' to be over so all-fired suddent as some seems to believe, and even after it's over, it'll take a year to bring the boys back, and several years to git things settled down in the old rut.

THOMAS JEFFERSON PUTNAM.

TRAPPED
A Woman Spy

Just now the most important thing in the world—the all absorbing subject..is WAR. The war that running with the speed and fury of a forest fire has already seered with its flame two-thirds of the civilized world and darkened the rest with its smoke. And in the war the things of the most importance and the most intense interest to all patriotic Americans are the enemies within our gates—the spies—the traitors—and how they may be trapped.

Commencing in this issue of WESTERN FARM LIFE is a war story of more than usual power; a story of broad interest and general appeal, intense dramatic power and vividness of color. It shows just how a lot of these most insidious of foes were trapped.

Patriotism and treason, peace and war, love and hate, each have formed the theme of a good many stories. "Trapped" is a story that involves the element of all six and a few others thrown in. The plot is laid in the most peaceful of places. A little summer colony on the coast of Maine, but one day Nelson Hobart sees a drifting dory opposite his cottage. He goes out to pick it up and finds—a dead man—a fisherman of the banks, shot thru the forehead and the bullet that killed him proved to be a Mauser, the official German arm. That is the beginning and from that moment until the strongly, dramatic end, the interest doesn't flag for a second, and the characters—Eben Scour, Bill Marks, Herb Lewis, Anna Marshall and her mother, and by no means least, Lieutenant Morse, U. S. N.—will remain your friends for long after that—which, by the way, is a pretty good test of a story. Be sure and read the first installment, page 5, this issue.

Repeating Shotguns and Rifles
for Shooting Right

WHETHER .22 repeater for the boy or autoloading shotgun for yourself, a high power autoloading rifle for that well earned deer hunt or a pump gun or rifle for general use, buy a Remington UMC and know you are getting the *right* arm.

Every Remington UMC shotgun or rifle is *right* in every mechanical detail—hammerless, with solid breech, has positive safety lock and either autoloading or slide action. And *right* in shooting qualities, balance, fit, material, workmanship, finish and appearance.

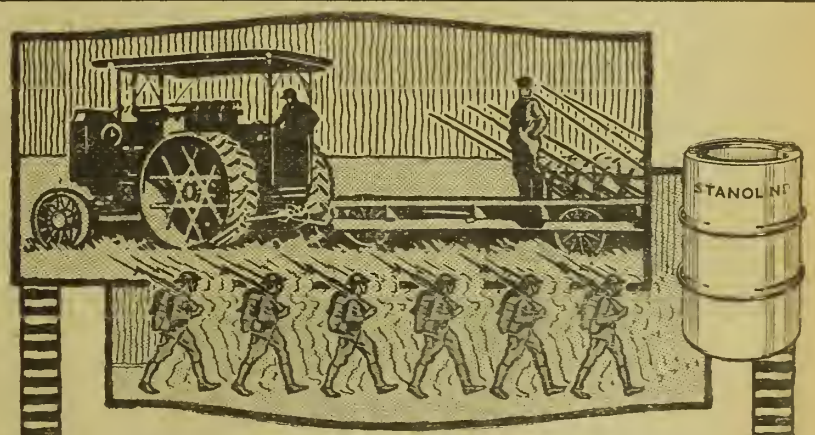
Buy Remington UMC Shotshells or Metallic Cartridges and add the *right* finishing touch. For example, for squirrels, woodchucks and other small animals, the Remington UMC .22 cartridge with hollow point bullet gives best results.

The wonderful Wetproof process used exclusively in the manufacture of Remington UMC Smokeless "Arrow" and "Nitro Club" Shotshells, produces a shell which can be exposed to wet for hours without harm.

In *black powder* shotshells, buy the old reliable Remington UMC "New Club," now wetproof sealed at turnover (crimp) and top wad.

Sold by Hardware and Sporting Goods Dealers in Your Nearest Town

THE REMINGTON ARMS UNION METALLIC CARTRIDGE CO., Inc.
Largest Manufacturers of Firearms and Ammunition in the World
WOOLWORTH BUILDING NEW YORK CITY



THE VICTORY MACHINE

The army and the farm tractor will win the war. But success depends so greatly on the harvest that your tractor must be kept fit for its work—and proper lubrication is a vital need.

STANOLIND
Gas Engine Tractor Oil

is especially manufactured for the kerosene burning motor. It gives adequate lubrication, keeps compression tight, lessens carbon trouble in valves and cylinders. It is the oil that tractor manufacturers recommend.

Fill your crank case with Stanolind Gas Engine Tractor Oil and your "victory machine" will stand up to its gruelling work, day in, day out.

At your dealer's or direct from the producer.

THE CONTINENTAL OIL COMPANY
(A Colorado Corporation)
Denver Salt Lake City Pueblo Albuquerque
Cheyenne Butte Boise

Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Indian Blood No Homestead Bar.

Answer to W. C., Pueblo county:

A person who has obtained title to land in Oklahoma (or elsewhere), by reason of his Indian descent, may make homestead entry for land subject to entry in Colorado (or elsewhere), provided the applicant is properly qualified as a homesteader. In other words, the fact that a person has Indian blood, and has received land or other benefits as an Indian, does not necessarily disqualify him from making a homestead entry as a citizen, provided he is otherwise qualified.

Grass-Fed Steers at $256

In your issue of August 15, in the Branding Iron column, you gave an account of some grass-fed steers sold by Coke Roberds of Hayden, Colo., at $256 a head. Can you give me the ages, weights, and especially the breed of these steers?—A. C. McD., Fremont County, Wyo.

These cattle were high-grade Herefords, bred in Northern Arizona, and taken to Routt county, Colorado, when they were yearlings and carried by Coke Roberds until three years old past. There were 37 head in the lot and they averaged 1,390 pounds in weight and sold for $256 per head, or over $18 a hundred. This sale broke all records for grass-fed cattle on the Denver market.

Cow Gives Bloody Milk

Ans. to A. S. H., Crowley County, Colo.:

Answering your question regarding bloody milk: If the bloody milk comes from all four quarters of the udder and the cow has recently calved, the trouble should soon pass off. Feed light laxative rations. Mix a level teaspoonful of powdered copperas and three teaspoonfuls of salt in the feed night and morning. If the blood comes from one or two teats only, the trouble may be due to growths which must be removed. The cow may be suffering from mammitis or garget, and in that event call a veterinarian.

Calf Has Indigestion.

Some time ago I wrote you about my calf and you gave me advice. Now the scours are entirely cured, but when he chews his cud he slobbers almost as much as if vomiting. He is awful thin, but has a pretty good appetite; still drinks milk. Has dry hay to eat when he wants it. The party I bought him from said the calf wouldn't drink from the pail at first and went without anything for four days, then when it did drink, they gave it about eight pounds of new milk the first feed, and it never seemed to care much whether it got fed after that or not. Do you think that would cause indigestion? He was a fine healthy calf while suckling the cow; is about four months old now.—B. E. R., Fremont County.

The calf is probably suffering from indigestion on account of overfeeding. Bucket-fed calves should never be given quite enough milk to satisfy their hunger. Over-feeding has killed many calves and stunted the growth of many more. A physic with castor oil, followed by careful feeding, is usually sufficient treatment for these cases. Possibly this is a mild case of necrobacillosis (calf diphtheria), which accounts for the diarrhoea, ulceration of the mouth and throat remaining, is responsible for the spewing of saliva mixed with food. If, after examination of the mouth and throat inflammation or ulceration is found, the same may be treated by swabbing twice a day with a saturated solution of boric acid. If a little of it is swallowed it will do no harm. Calves suffering with this disease should be isolated. This disease is fatal in the majority of cases.—Dr. Geo. H. Glover, Veterinary Dept., Colorado Agricultural College.

Harvesting Dwarf Broom Corn

Ans. to B. H., Boone, Colo.:

As the dwarf broom corn grows from 4 to 6 feet in height and the head is partly enclosed in the sheath of the upper leaf, it is found more convenient to pull the heads. In sections where dry weather usually prevails at harvest time, the brush is pulled and piled in bunches along the rows. Brush from two to four rows may be piled together and should be placed on stalks broken down to keep the brush off the ground while other stalks should be used to protect the pile from sun or rains. These small piles are left in the field for a few days until they are practically dry, and then they are gathered up and put in ricks to remain until all of the crop is harvested. If the field does not mature evenly it should be pulled two or three times, each time only pulling the matured heads. After the crop is all harvested and thoroly cured, it is usually seeded and baled at the same time.

This custom prevails in Oklahoma and Texas where there may be only one seeding and bailing outfit among many growers. In older broom corn sections, such as Illinois and Kansas, nearly every grower has his own seeder and sheds in which to cure his crop. Where there is liable to be much rain or heavy dews at harvest time it is essential to have sheds for curing, and where this condition exists the brush is pulled and taken directly to the sheds, where it is seeded, then spread out in thin layers on suitable shelves for curing.

Whorled Milkweed in Lawn

Ans. to R. A. B., Delta County, Colo.:

Your letter and plant specimen to Western Farm Life have been forwarded to this department. The plant is the whorled milkweed, and is not only a very pernicious weed but also a poisonous plant. I am enclosing a copy of Colorado Agricultural Experiment Station Bulletin No. 246, "A New Poisonous Plant—the Whorled Milkweed," recently published, which describes the habits of the plant and its poisonous character. Altho this plant is a common weed in orchards and fields of western and southwestern Colorado, it is unusual to see it infesting lawns. You are adopting the right method in eradicating it from your lawn. The plant must not be allowed to form any top growth, and if this is persistently removed clear to the ground line, the underground growth will be starved out in time.—W. W. Robbins, Botanist, Colorado Agricultural College.

Removing the Green Scum

Ans. to V. T. C., Morgan County, Colo.:

For the eradication of algae use 1 part of copper sulphate (blue vitriol) in 1 million parts of water. Practically, this treatment is best effected by placing a few pounds of the crystals of copper sulphate in a gunny sack, tying this behind a boat and rowing about the pond or reservoir. Fifteen pounds of copper sulphate to 1 million gallons of water is a practical proportion. In the case of a water trough, thru which water is steadily running, a small sack of copper sulphate suspended near the inlet will suffice to kill all green scum. If the water in the trough is not freely running in and out, the suspension, in the water, of a small sack of blue vitriol for a short time now and then thruout the season will keep green scum from collecting. The small quantities of sulphate that go into solution are harmful to the algae, but do not injure livestock or human beings.—W. W. Robbins, Botanist, Colorado Agricultural College.

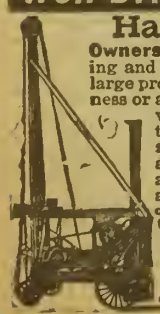
Feed Prices in France

Shortage of animal feeds in France, though frequently announced in the foreign crop reports, is perhaps most clearly reflected by the prices prevailing in the forage markets. There are three qualities of fodder. The prices quoted prevailed in midsummer and are for the second or medium quality. First-quality fodder averages from $2 to $3 more per ton, and third-quality the same amount less: Wheat straw, $78 per ton; hay, $84; Lucerne (alfalfa), $88. Shortages of transport makes deliveries of all feeds uncertain, and in some markets there is practically no business.

Eat thou honey because it is good. Proverbs xxiv 13.

The Universal Thresher

Send for NEW CATALOG
Well Drilling Machines



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Owners of "AMERICAN" Well Drilling and Prospecting Machines make large profits either as a regular business or a side line. The demand for wells is large, and from our extensive line comprising 59 styles and sizes, we can select a machine suitable for almost any locality or formation, and arranged for almost any kind of power. Write for new illustrated catalog No. 145, Free

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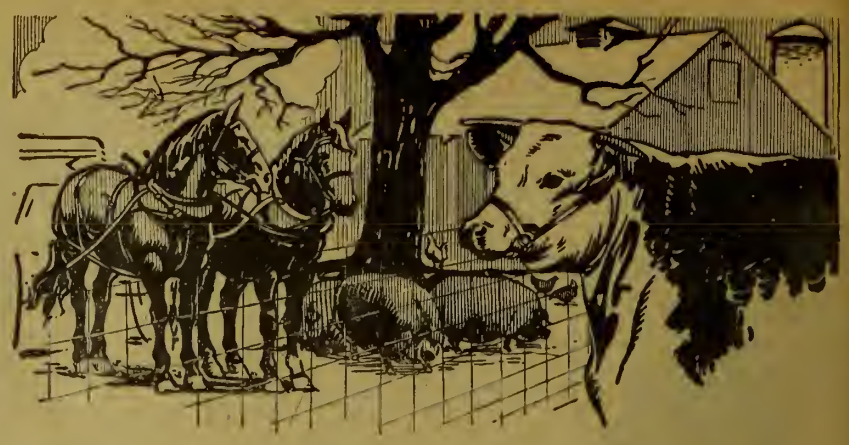

Keep Your Live Stock Sound and Contented

—free from the pain of strained tendons, the aches and tortures of *swellings*, *lameness*, *bruises*—with Sloan's Liniment. Its use for 37 years recommends it to you.

Suffering from neglect which may develop seriously, their efficiency is undermined, their value below par.

Apply Sloan's Liniment to the throbbing part and let it *penetrate without rubbing*. Prompt relief will follow, the pains and aches will subside, better work and better worth will be your reward.

Save-Buy-
W.S.S.
WAR SAVINGS STAMPS
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For family use, too, Sloan's Liniment soon relieves *rheumatic twinges*, *lumbago*, *stiffness* and *soreness* of *joints* and *muscles*. A bottle around the house is a thoughtful provision for first-aid emergency.

Three sizes—the bigger the bottle the greater the thrift. Get *yours* today.

Sloan's KILLS PAIN
The World's
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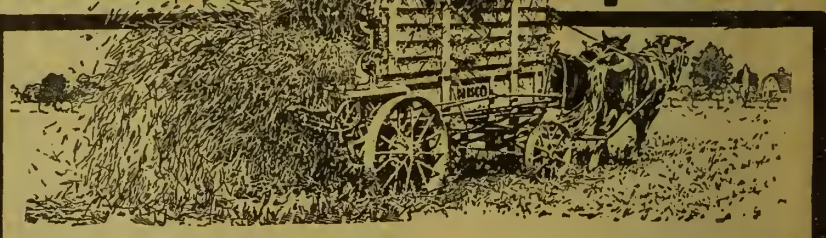
NISCO MANURE and STRAW Spreader



Straw Worth $8 a Ton---Don't Waste It

(All statements approved by Experiment Stations, Departments of Agriculture and progressive farmers).

Science and the experience of many up-to-date farmers prove that your straw stack contains tons of humus and much phosphorus, potash and nitrogen. At present prices, straw has a fertilizer value of $8.00 a ton—too valuable to burn or sell at a low figure.

In addition to that, it prevents the winter killing of wheat, soil blow or washing, conserves moisture and makes tough, sticky soil much more friable.

But you can't get these results by haphazard, wagon-tail distribution. The straw must be well shredded, well distributed and put on evenly. The one sure way of getting all these results is to use the

NISCO ONE MAN Straw Spreading Attachment

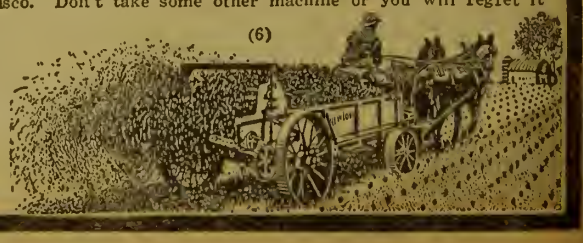
You can put this attachment at small cost on your trusty Nisco—the original wide spreading spreader, and make it a perfect machine for both manure and straw—two machines in one. Spreads straw evenly 8 to 10 feet wide.

The Nisco has always been the bellwether of spreaders. It is always in the lead with new improvements and is built for a life-time of service. "Not a cent for repairs" is the statement of thousands of farmers who have used the Nisco for years.

See your Nisco dealer and have him show you the advantages of both the Nisco and the straw attachment. Don't wait for him to call on you as he is short of help now. Insist on the Nisco. Don't take some other machine or you will regret it later on. Ask the dealer or write us for illustrated circular and book on manure. Act now and be prepared for the spring drive of 1919.

New Idea Spreader Co.
Spreader Specialists
Coldwater, Ohio

(6)



Hold Wheat If Necessary

The movement of wheat to primary markets, for the period July 1 to August 23, 1918, was 105,500,000 bushels, which is nearly quadruple the movement during the corresponding time in 1917 when 28,750,000 bushels moved to market.

This enormous migration of wheat from producer to milling and consuming areas had made it difficult for growers to secure cars when desired. The movement of corn and oats, which is also greater than last year, has aggravated the grain-car shortage. Under these conditions certain elevators and grain dealers, it is learned, have sought to reduce the price paid for wheat to an extent that some offerings were below the price which farmers expected.

The Food Administration is now collecting data and information upon which to base conclusions as to what is a fair remuneration for a country elevator, dealer or operator to receive. In the heart of wheat producing areas, where a large volume of business is handled, and where expense of operating is low, present conditions indicate that 5 cents per bushel is an ample charge. In other districts where facilities are not modern and where the volume of business is smaller, 8 cents is perhaps not too much. In special cases the margins may fall outside this price range, which is only suggested. Actual determination of a fair buying margin must depend finally on local investigation.

Farmers who are able to get cars are protected because they can ship directly to the Grain Corporation at the nearest primary market. Where cars are unobtainable the producer's best alternative is to store his wheat until he is offered an acceptable price by his local operator.

Farmers may learn from the Federal Food Administrator in their state what price is approximately fair and they will not be considered unpatriotic for holding their wheat until they are either offered a satisfactory price or can secure a car in which to ship to the Grain Corporation.

The 1918 prices at the primary points are to be continued as guaranteed prices for the 1919 wheat crop also, but in the spring of 1919 the President will appoint a disinterested commission, to secure facts regarding farm labor, supplies and other cost factors in wheat production. From the report of the commission appointed the President will determine whether there should be an increase over the present guarantee and if so what advance in order to maintain for the farmer a good return.

Lands for the Soldiers

To the Editor:—

You published a statement from the Treasury Department in your August 15th issue regarding the financing of farmers in the drouth sections of the West to tide them over until they could make another crop of wheat. This set me to thinking that perhaps the War Finance Corporation would assist the farmers in this part of Colorado to raise more food for the nation. In the southwestern part of Colorado and southeast part of Utah there are 200,000 acres of as fine land as can be found in the United States, which will produce 15 to 20 bushels of wheat per acre, or 500 pounds of beans per acre, or 20 bushels of corn. There is only about one-tenth of this fertile land in cultivation, due to the fact that it is covered with sagebrush five feet in height which costs $6 per acre for clearing. The farmers here are not financially able to do this clearing, or at least only a small portion, as it requires a tractor, or about eight or ten good horses to do this clearing. If we could borrow money to put the land in cultivation every farmer here would put in at least 20 acres more of wheat, which would make quite an addition to the nation's food supply, to say nothing of the added prosperity of this part of the country. I see by the papers that the U. S. government is sending tractors to France to help them raise more crops. It would seem that charity should begin at home. If you can bring this to the attention of the proper authorities, and would send me the address of those in charge of the War Finance Corporation, I will thank you.—R. H. Bane, Secretary, Fairview Grange, No. 364, Ackmar, Colo.

Note: This letter was referred to the Crop Production Committee of the Colorado Council of Defense, and the chairman of that committee, Dr. Charles A. Lory, will give the suggestions proper consideration. Mr. Bane was advised, also, to take it up with Secretary of the Interior Lane, with a view to interesting him in the development of these lands for returned soldiers. Secretary Lane is making extensive plans for taking care of soldiers who may want land when they are thru with the job "over there." He is seeking an appropriation from Congress to cover the cost of an extended survey of land development possibilities in the West and South. His attention has been called by Western Farm Life to the fact that this scheme should include so-called dry farming lands, as well as prospective irrigation projects, because of the much lower cost of development and the practically unlimited supply of dry lands capable of profitable crop production under the proper methods. The federal government has entirely overlooked the dry lands, while spending many millions of dollars in irrigation projects, on the theory, probably, that the individual settler was able to do his own development work where irrigation is not necessary.

As colonization projects, however, for after-the-war settlement, the government could at minimum cost, supervise the intelligent and safe development of millions of acres of western land that needs no expensive water systems to make it productive. The reason for many past failures on such lands has been the lack of a governmental policy of development, the government having been satisfied virtually to say to the prospective settler: "Here is the list of homestead lands available for settlement; help yourself; we can't help you pick out what suits your conditions, or your knowledge; you must shift for yourself. Isn't it enough that we let you have the land free?"

On the reclamation projects, after an investment of millions in irrigation systems, the government, as eager as private capital to get back the dollar invested, gives the settler careful and intelligent supervision, guiding agriculture into safe channels. The results are excellent. On the semi-arid lands, developed without federal supervision or policy of any kind, success has come only after several migrations. Let us avoid this blunder in providing for the returned soldiers and give those who may take up the remaining homesteads, or those who wish to purchase idle non-irrigated lands in the semi-arid West, the same close supervision given the settler who ties himself up for a long period of years under a government mortgage on the reclamation project.—Editor.

Financing Crop Movement

The War Finance Corporation of the Treasury Department, supplementing the work of the Federal Reserve banks in rediscounting commercial paper, will make advances under section 7 of the act creating the corporation to banks to assist them in financing the moving of this year's crop. Advances to both member and non-member banks are contemplated in the plan.

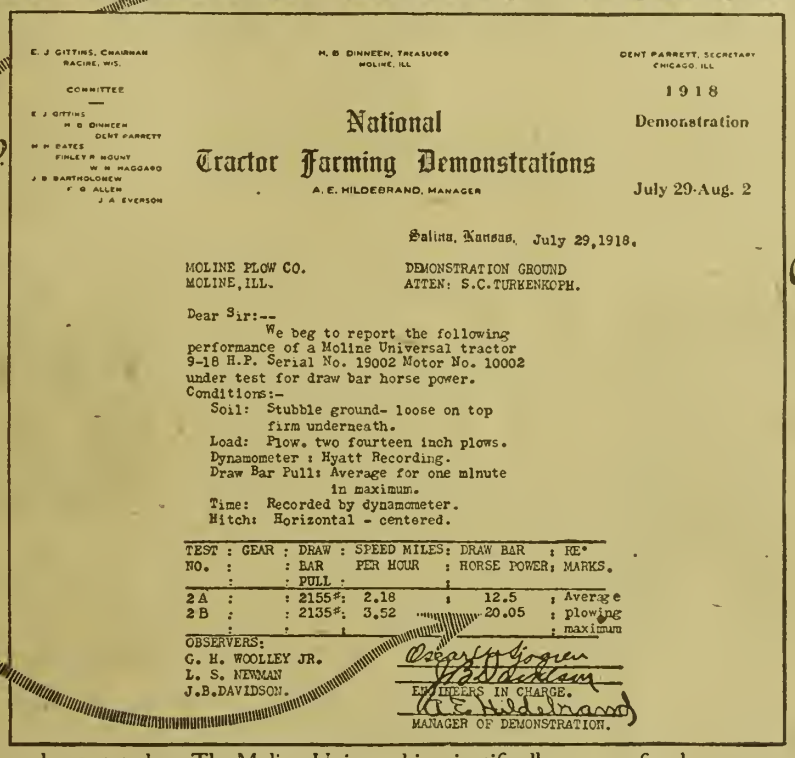
The fiscal agents of the corporation for this financing are the Federal Reserve banks of Richmond, Atlanta, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco.

The advances are limited to 75 per cent of the amount of the loan made by the banks for the crop movement or to 100 per cent in case a bank itself furnishes sufficient additional collateral security.

Inasmuch as the advances are to be for crop-moving purposes only, these loans will be limited to four months. The rate of interest will be 5 per cent. Full information can be secured from the Federal Reserve banks.

The use of horseflesh for human consumption in France has greatly increased. Last year more than 70,000 horses were killed for food in Paris.

Moline-Universal Makes Wonderful Record at National Tractor Demonstration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1918
National Demonstration
Tractor Farming Demonstrations
A. E. HILDEBRAND, MANAGER
July 29-Aug. 2

Salina, Kansas, July 29, 1918.

MOLINE PLOW CO.
MOLINE, ILL.

DEMONSTRATION GROUND
ATTEN: S.C.TURKENKOPH.

Dear Sir:--
We beg to report the following performance of a Moline Universal tractor 9-18 H.P. Serial No. 19002 Motor No. 10002 under test for draw bar horse power.
Conditions:-
Soil: Stubble ground- loose on top firm underneath.
Load: Plow. two fourteen inch plows.
Dynamometer : Hyatt Recording.
Draw Bar Pull: Average for one minute in maximum.
Time: Recorded by dynamometer.
Hitch: Horizontal - centered.

TEST NO.	GEAR	DRAW BAR PULL	SPEED MILES PER HOUR	DRAW BAR HORSE POWER	REMARKS.
2A		2155#	2.18	12.5	Average
2B		2135#	3.52	20.05	plowing
					maximum

OBSERVERS:
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ENGINEERS IN CHARGE.
A. E. Hildebrand
MANAGER OF DEMONSTRATION.

Develops 20 H.P. on the draw bar and we only rate it at 9 H.P. Think of it!-

Officially Acredited with 26.48 H.P. at the belt- We rate it at 18 H.P.

IN previous advertising we have stated that the Moline-Universal was conservatively rated at 9-18 h. p. Just how conservative is shown by the astonishing official tests made at the National Tractor Demonstration which showed the Moline-Universal to have an excess of over 11 h. p. on the draw bar and 8 h. p. at the belt.

Certainly these tests show beyond question of doubt the efficiency of the Moline-Universal. For each 169 lbs. of weight the Moline-Universal developed 1 h. p. on the draw bar. Compare this with the ordinary tractor which develops 1 h. p. for each 250 to 300 lbs. weight—and you will clearly realize the greater efficiency and corresponding greater economy of the Moline-Universal.

However, we shall continue to rate the Moline-Universal at 9-18 h. p. A tractor to give satisfactory service and stand up for years under the strain of tractor work must have reserve power, and the greater the reserve the better. Under normal conditions the Moline-Universal has from 50 to 100 per cent reserve power. Think what this means.

Ninety-eight per cent of its entire weight is on the two big drive wheels where every ounce is available for traction. The Moline-Universal is scientifically constructed and utilizes its weight to best advantage. It has no dead weight.

From the above report you will see that the Moline-Universal developed 20.05 h. p. at 3.52 m. p. h. pulling two plow bottoms 9 to 10 in. deep in exceptionally hard plowing. At 2.18 m. p. h. it developed 12.5 h. p. The difference in speed accounts for the extra draw bar pull. At 3.5 m. p. h. under average conditions the Moline-Universal will plow as much in a day as a 3-plow tractor traveling at 2.25 m. p. h.

Just the Right Size

If the Moline-Universal were built to pull a 3-bottom plow, it would be too heavy for light work. As the Moline-Universal is now built it has ample capacity for all ordinary plowing needs, and at the same time is equally suited for light operations such as cultivating, haying, harvesting, etc. which require far more work hours than your heavy work.

You are chiefly concerned in getting your work done quicker and better than you ever did before. You have no fixed power requirements. One day your work may be heavy, the next day light—and the light work is just as important as the heavy. Thus, you must have a tractor which will do both heavy and light work efficiently and economically, and the Moline-Universal fully meets both these requirements. You have plenty of power when you need it and when you don't want it you have no extra expense—as you would have with a heavy tractor for light jobs.

Remember this—here's what the Moline-Universal Tractor will do for you:

(1) Gives you plenty of power for all your work, both heavy and light.

(2) It does all farm work including cultivating.

(3) One man operates both tractor and implement from the seat of the implement in all operations.

(4) Electric lights enable it to be worked nights to make up for unavoidable delays.

(5) Because of self-starter, non-robust labor can operate tractor successfully.

(6) So well made and has so much reserve power that it will give many years of service.

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Dairying and Hog Raising

GEO. E. MORTON

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Large Type Hogs

The Breeder's Gazette recently published a very timely and pointed editorial concerning the monstrosities that are passing muster in the hog world today. The West has not gone as yet to the extreme type that seems to be finding favor in the corn belt, judging by the hogs that are put up at shows and the kind that leading swine journals are advertising. It is to be hoped that the West will continue its conservative attitude and stay by a hog that has size and something else, instead of size only. One would judge from the type some breeders are producing, that size is the only thing of importance in the hog; and some fieldmen have gone so far as to state this.

The whole situation is one of those peculiar movements that take place when practical utility has been neglected in any one line. Quality was sought for in hogs until it was developing to a point where hogs lacked scale and consequently were not profitable for their producers. It took a long time to swing the trend of thought in the opposite direction and get breeders to appreciate the value of size from the standpoint of a grower, and now that the current is set in the new direction, it seems impossible to stop it. Certainly the consumer has as much interest in the make-up of a hog as the producer has, and yet the producer in going after the extreme type which is popular today, is neglecting the demands of the consumer in the way of a hog with properly developed ham, and a hog that will dress out a small amount of waste; and also disregarding his own interests in producing a hog that gives an extremely heavy weight when mature—at the sacrifice of fattening qualities—at the age when it is most profitable to send him to market. Breeders must occasionally yield to temporary fashions, but they should never destroy their breeding herd as they should retain the blood which will swing back to a conservative type. I hope Colorado breeders particularly will keep this in mind, and while they must breed some elongated arch back hogs with neither width nor ham, since some people demand such hogs, they should nevertheless maintain the nucleus of a herd composed of brood sows that can produce heavy, fat, well balanced barrows at an age of six to nine months. Let us use our own heads instead of all rushing for the same door at the cry of fire.

I am well aware that what I write here may seem at variance with the type of hog I am placing up in the judging rings at fairs this fall. But I have always held that no judge except a nationally known breeder judge can [illegible]e type in the breed by his ring decisions. College judges in particular are charged with being theoretical if they put up anything except the fashionable type of the hour. And there is justice in it, I think. The judgment of the best breeders can be depended upon to swing back to a well balanced type even tho they get away from it for a time. The Colorado breeders can help mold opinion in the West by holding to a conservative type.—G. E. Morton.

American Royal in November

Dates for the American Royal livestock show for this year have been fixed for November 16 to 23. The show will be held at the Stockyards in Kansas City. For several seasons it was held at Electric park, but this separation from the livestock market proved inadvisable. This is to be the twentieth annual Royal and breeders are promised a fine exhibition in the old surroundings. Interest in the Royal has been lagging for several years, but the great demand for purebred cattle and the generally thriving condition of the beef industry thruout the entire West will, no doubt, bring an old-time crowd and make this show a success comparable with the exhibitions of other days that classed the Royal with the world's big livestock shows.

Sunflower Silage Tests

Tests of sunflowers for ensilage are being continued in Mesa and Delta counties, on the Colorado western slope. Russian sunflowers are being grown for this purpose, the apparent advantage over corn being the enormous tonnage produced under irrigation. Extended mention of this experimental work by dairy farmers was made in these columns a year ago in an article by George La Grange, the well known Jersey breeder of Grand Junction. Recently there was a tour of field inspection by farmers in Delta county, arranged by County Agricultural Agent Edw. H. Divelbiss, on which the latter makes the following report:

So far our work is purely in the experimental stage. None of the ensilage has been fed to stock here. However, we have in the neighborhood of 125 or 130 acres planted to sunflowers and expect to secure results this year along feeding lines.

Our excursion of August 30th was purely to study the culture, adaptation and results secured this year. On one ranch, at an altitude of 7,000 feet, the estimated yield from sunflowers planted June 1st, will be in the neighborhood of 25 tons per acre. The sunflowers were planted as late as the 13th of July in some fields. We expect to secure in the neighborhood of 10 tons of ensilage an acre from the field which was planted latest.

Two fields were planted in ground from which old orchards has just been removed. The sunflowers were planted, in both cases, because it was too late to plant corn. Yields of from 15 to 20 tons are anticipated from these fields.

In another field a very poor stand of corn was secured. Sunflower seed was planted in the corn after the 1st of July. From present indications the yield from this field will be practically doubled by the planting of sunflowers at this time.

If we secure the results in feeding trials for which we hope, the sunflower will go a long ways towards developing our agricultural lands which have an elevation of above 6,000 feet, and will probably be largely planted in the lower altitudes also. The crop this year will be fed to sheep, beef stock and dairy cows, so that we will have a good idea of its value for each of these classes of stock.—EDW. H. DIVELBISS.

A Holstein on Alfalfa Test

In connection with the cost of feeding cows at the present high feed prices, it may be of interest to dairymen to know that a purebred Holstein cow, owned by the University of California, is under semi-official test, and is being fed only alfalfa hay. For several years this cow has thrived on hay alone, consuming about 60 lbs. per day. She began her test in February last and produced in 7 days 354 lbs. milk containing 13,744 lbs. fat, equal to over 17 lbs. butter. Her daily average of over 50 lbs. milk and nearly 2½ lbs. butter shows what a Holstein cow is capable of doing just on hay. This cow is still on test and is keeping up a splendid average. It is proof of the wonderful capacity of the breed in the consumption of coarse feed.

The food program is a fighting program and every fighter counts.

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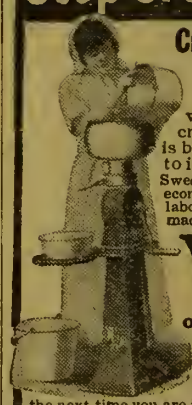

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San Luis Valley Pig Clubs

Two carloads of registered, immune Durocs, mostly bred gilts, were brot into the San Luis valley by W. A. Bronaugh, county club leader, and C. D. Hyatt, county agriculturist. Most of these pigs were kept in Rio Grande county, the remainder going to County Agent Sauder of Saguache. The entire lot was bought of the American Beet Sugar Company of Rocky Ford. The project was financed by the First National Bank of Monte Vista. This now brings the number of registered gilts, in the hands of the boys and the girls of Rio Grande, to a total of considerably over two hundred; and the hope now is to bring this figure up to the three-hundred mark before the end of the year.

These children are being taught the value of good blood in the production of pork—teaching which we believe to be most timely. Patriotism and profit nowadays travel hand in hand for the breeders of pure-bred livestock.

Saguache County, W. O. Sauder.—"The carload of registered hogs arrived Friday morning, and the rest of the day and Saturday was taken up in getting these hogs distributed to the farmers who had them ordered. Hogs were distributed by drawing of numbers. Forty of them were shipped in which were distributed to farmers around Center, Hooper and Villa Grove. The car consisted of 35 bred gilts, 4 boars and 4 gilt pigs. All the people getting pigs were well pleased with the stuff which was bought at very low rates. It is estimated that the co-operative buying in this case saved the farmers who bought stuff $1,000 on the car, as similar stuff is now being advertised at 40c a pound, while we bought it for 22 1-2c. There was no trouble in getting rid of the stuff, as there were more people outside of those who had orders in who wanted some of the pigs."

Record Breaking Prices

Prices for Holstein cattle have reached the highest ever known in the history of the breed. Think of English breeders of dairy cattle paying $17,500 for a Holstein cow, and $15,000 for a bull! And many of the recent auction dispersal sales in the old country have witnessed an average of over $1,000 per head, one in particular averaging considerable over $2,000 per head.

In the United States astonishing figures have been reported—the great record-breaking sale at Milwaukee, following the national Holstein breeders' annual convention being an eye-opener in this respect. At this sale 175 head of Holstein cattle, consigned by leading breeders of the country, sold for a total sum of $425,810; an average price of $2,433 per head. Top price of the sale was $106,000 for a Canadian-bred bull calf, consigned by A. C. Hardy of Brockville, Ont., and purchased by the Carnation Stock Farms, Seattle, Wash., and Oconomowoc, Wis. The price paid for this 6-months-old son of the great Canadian milk cow, May Echo Sylvia, constituted a world's record for any dairy animal. At this sale eight animals sold for $10,000 and upwards each, $13,000 being paid for a 40-lb. cow, and two other cows selling for $12,500 and $12,000 each, the former being Canadian-bred.

Another important sale was the one held at Pine Grove Farms, Elma, N. Y., when 145 head brought an average of $964, top price being made on a 40-lb. cow which was sold to Paul T. Brady, a prominent New York breeder, for $16,000. This cow was 8 years old and was sired by Pontiac Korndyke. She produced in seven days over 750 lbs. milk, containing fat equal to over 42 lbs. butter.

Cream Will Not Churn

Answer to Mrs. G. H., Weld county, Colo.:

One cannot always be certain for the reason of cream not churning well. Sometimes it is because cows are going dry; sometimes from the character of feed; sometimes temperature; and sometimes just pure cussedness. I would advise you to use a thermometer in churning so as to churn around 60 degrees. Do not put any sweet cream in with the batch that is being held for churning for a day or two before you churn, because, while the entire lot will taste sour enough, nevertheless, the new cream is there and is not ripened to a stage where it will churn satisfactorily. Keep the sour cream in as cool a place as possible until you are ready to churn. If you still have difficulty, try salting the cream before churning.—G. E. M.

Preparing Furs For Market

Wrong methods of skinning, stretching and drying pelts causes the loss of thousands of dollars to trappers every year. The right methods to follow are just as easy if you know them—and here they are:

Skinning methods are of two kinds, "casing" and "open." Casing means peeling the skin off whole. Open means ripping the skin down the belly.

Animals which should be cased are the following: Mink, marten, weasel, opossum, fox, fisher, skunk, civet, muskrat, bob cat, otter, lynx, wolf and wolverine. Open skinning should be used with coon, badger, beaver, bear and mountain lion.

The following skins, before they become too dry, should be turned fur side out for shipping: Fox, lynx, fisher, wolf, marten, wolverine and bob cat. Leave the others, which are cased, pelt side out.

To case a skin, cut from the root of the tail down the inside of each hind leg to the foot. Then pull the skin carefully over the body and head. The tail should be skinned and the bone removed, except for muskrat and opossum. These two can be cut off as they are worthless. Skinning is made easier by suspending the carcass from something, doing this by means of a strong cord tied around the hind legs. Draw the skin from the front legs. Cut off the ears—downward toward the head. Cut the skin loose about the nose and eyes.

In using the open method, cut from point of jaw to vent, also down back hind legs and inside of front legs. Lynx, mountain lion, bear—which are valuable for rugs or mounting—should be skinned on the legs clear to the toes, leaving the claws attached. Smaller animals, valuable only as furs, may have the legs cut off.

Be sure to clean every bit of flesh and fat from the skins, using extreme care to avoid cutting.

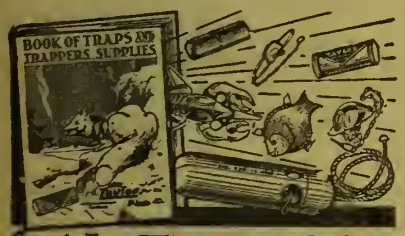
Steel stretchers, which can be had in just the right shape for different skins, give the best results. If you do not use these, and do not know from experience the shape and size to make board stretchers, by all means write to one of the big fur houses for information. Improper stretching may make skins almost valueless.

When the skins are on the stretchers, put them in a cool, dry place—never in the sun or near the fire. Dry them just enough to prevent shrinking and wrinkling. If you find that a skin has become too dry to turn, soften a little with a damp cloth. But be sure to let the dampened spots dry out before shipping.

Do not use patented preparations for curing—just the natural drying.

This matter of preparing skins is extremely important and it will mean many more dollars in your pocket to secure some trapping book which goes into full detail about it. Or, as suggested, write to a fur house for information. They are interested in getting furs in perfect condition and will be glad to tell you how.

Effects of inadequate food distribution on prices are shown in Russian reports. Late in April of this year, butter was selling in Moscow for 98 cents per pound, while in Petrograd, 406 miles distant, the price was $3 per pound. This condition emphasizes the present importance in all countries of using locally produced foods as much as possible in order to insure adequate transportation and bring about fairly level prices for foods in general.



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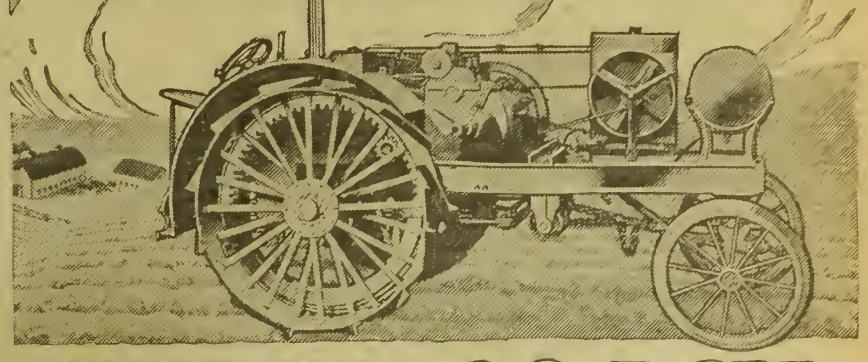
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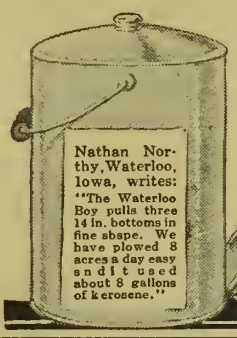
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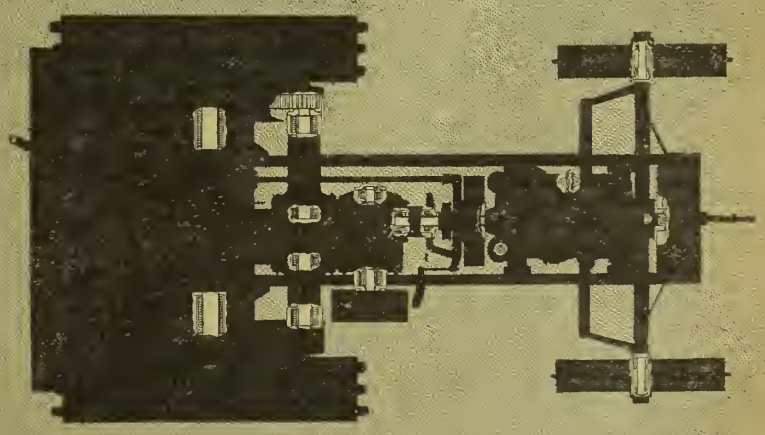
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Farm Home Department

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

America produces only enough wool to supply one-half to two-thirds her normal needs. The average amount of wool required for a civilian is eight pounds a year, while for a fully equipped soldier it is about 13 times this amount, or 106 pounds. When the army is increased to 5,000,000 men, it is estimated that no civilian can have any new wool clothes. Even at present it is not possible for soldiers' blankets and suits to be all wool. The army blankets now contain 35 per cent reworked wool, and there is 25 per cent cotton and 25 per cent shoddy in some of the material used for soldiers.

The manufacturers of women's clothing are doing their part in helping in this wool situation. They have agreed to limit themselves to a few styles, to garments with little or no wool trimming, such as extra pockets, belts and straps, to use material for garments which contains some re-worked wool, to use models which require a small amount of goods, and to reduce the use of samples. It is estimated that if sample giving is eliminated 67,000 soldiers can be clothed on what is thus saved. The government by cutting six inches from 7,000,000 soldiers' overcoats was able to make 31,200 more coats.

If a woman finds nothing in her trunk or attic which she can make over for herself this winter and finds that she must buy a new woolen garment, she should buy, if possible, a garment which is not navy blue or khaki color, because the government needs these dyes. If possible, she should not buy cloth of the weave found in soldiers' garments, since the looms which manufacture these weaves need to be kept busy on materials for soldiers' supplies. She should choose a design that is not extreme in style.

Women should ask themselves this year "How few clothes can I get along with," and not "How much have I to spend for clothing?" Non-essential clothing should be eliminated, because the production of any such material means that labor, machinery, fuel and transportation are being diverted from war purposes, says Miss E. M. Hyle of the Extension Service of the University of Missouri College of Agriculture. Non-essential clothing is that which is not required to maintain physical efficiency.

No Sugar Famine

We have the following from the United States Food Administration: "You are authorized to inform your readers that altho there is a world sugar shortage, there is not a sugar famine, nor any likelihood of one. Compliance with the present voluntary ration, two pounds per month per person, will take care of the situation for a seemingly indefinite time, without the need for further reduction in amount."

Twsnty Per Cent Substitutes

The recent careful survey by the Food Administrators of the United States, France, England and Italy of the food resources of the 220,000,000 people fighting against Germany, shows that, to maintain enough supplies and necessary reserves against disaster, there must be maintained in all countries a conservation of wheat flour during the coming year. It has been agreed that the wheat bread of the allies shall contain 20 per cent of other grains than wheat, and it is only just that we should bear our share in this saving, and that our bread at least should be universal with those who are suffering more greatly from the war than ourselves. Distribution and transportation circumstances in the United States render it necessary to rely very largely on the voluntary action of our homes to enforce this mixture. The "Victory Bread" so made is wholesome and there is no difficulty in preparation.

Traoing a Stray Poem

Can you tell me where I can get two poems. One begins with these lines:

A bundle of letters tied with a bow.
They're from his mother, who worships him so.

I think the title is "The Jealous Wife," but I do not know the author's name.

The other one was used by a Chautauqua reader this summer here and it starts, "When you get what you want you don't want it." We have no large book stores here and it is very hard to get any up-to-date material of this kind. Can you recommend any book that contains good articles that might be used in informal entertainments?—Mrs. G. T. C., Bernalillo County, N. M.

"The Jealous Wife" is a poem by Fred Emerson Brooks. He has written three volumes of poetry. I do not know which volume it is in. This poem is also in the "One Hundred Choice Selections," number 28, page 154. This is published by the Penn Publishing Company, 925 Filbert street, Philadelphia, and costs 30 cents in paper and 50 cents in cloth. It is also printed in "The Speaker's Garland," volume 7. This costs $2 a volume. It is published by the Penn Publishing Company, and is simply "Choice Selections" in another form. I do not know about the other poem and have referred your request to Denver. Fugitive poems are often difficult to run down.—Charlotte A. Baker, Librarian, Colorado Agricultural College.

The Denver Public Library could not find the other poem, neither could it be found by the Book Review Department of The New York Times. It is probably a stray bit of newspaper verse. If any of our readers know its origin we shall be grateful for the information. Please address Home Department, Western Farm Life, Denver, Colo.

Making Liberty Cabbage

All surplus cabbage not desired for storage or market purposes should be made into liberty cabbage (formerly called graut) for winter use. Earthenware jars are the best containers for curing liberty cabbage. Straight-sided casks of cypress or white pine will answer in case the jars cannot be obtained, provided a layer of loose cabbage or grape leaves is placed in the bottom of each. Approximately seventy-five pounds of shredded cabbage (the equivalent of 100 pounds of untrimmed heads) is needed to fill a twelve-gallon container.

To make liberty cabbage for home use, choose heads of cabbage not desired for storage, cut each from its stalk just above the loose outer leaves, trim the heads, and cut them in halves lengthwise. Remove the cores with a sharp knife, and cut the cabbage into long fine shreds. Satisfactory cutting boards, each fitted with two or three sharp adjustable knives and a cutting box, may be had at hardware stores at a cost of $3 to $5. If a board of this type is not available a sharp knife may be used instead. Place a layer of shreds four to six inches deep in the bottom of the jar, and sprinkle it lightly with table salt. One pound of salt should be used to each forty gallons of liberty cabbage. Tamp or bruise the layer with a large clean wooden weight until the cabbage appears to be juicy. Add layers of cabbage, sprinkling each with salt and bruising or tamping until the jar is completely filled. Cover the surface with loose cabbage leaves that have been thoroly rinsed, fit an earthenware or wooden cover inside of the container, and place a clean stone on it to weight down the contents as the curing progresses. Tie several layers of cheesecloth over the jar as a protection against dust and flies. Store the jar where the temperature is 55 degrees Fahrenheit, or slightly above.

From four to six weeks will be needed for curing the cabbage at the temperature stated. Curing has finished when bubbles cease to rise to the surface of the liquor. Several days or a week later the cabbage is ready for use, the leaves with a thin layer of softened cabbage being first discarded from the top of the jar. When properly cured, liberty cabbage is rich yellow in color and may be taken from the jar as needed, if sufficient liquor is left to keep that remaining covered continually.—E. L. Kirkpatrick, By-Products Specialist, U. S. Bureau of Markets, Denver, Colo.

PATTERN DEPARTMENT

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2532—A Practical "Cover All" Style. For this comfortable model, use seersucker, percale, gingham, chambray, khaki or lawn. The design

is made to slip over the head, and closes with buttons and button-holes or snap fasteners at the center front. Cut in four sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44-46 inches bust measure. Size medium requires 5½ yards of 36-inch material.

2530—A Pretty Boudoir Set. Comprising a smart cap and dainty nightgown, both of which are suitable for lawn, batiste, dimity, nainsook, crepe, washable satin and silk. The cap could be of net lace, or embroidery. Cut in four sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44-46 inches bust measure. Size medium requires 4⅛ yards of 36-inch material for the gown. The cap requires ⅞ yard.

2373—A Dainty Party Dress. White voile, with a bit of embroidery and "Val" lace edging is here shown. The model is simple and may be finished without the jacket. It is nice for all wash fabrics, for combinations of silk and cloth, or gingham and organdie, crepe and silk. It is a smart style for velvet or serge. In 5 sizes: 4, 6, 8, 10 and 12 years. Size 12 requires 3¾ yards of 44-inch material for dress with jacket. The jacket alone will require 1½ yard.

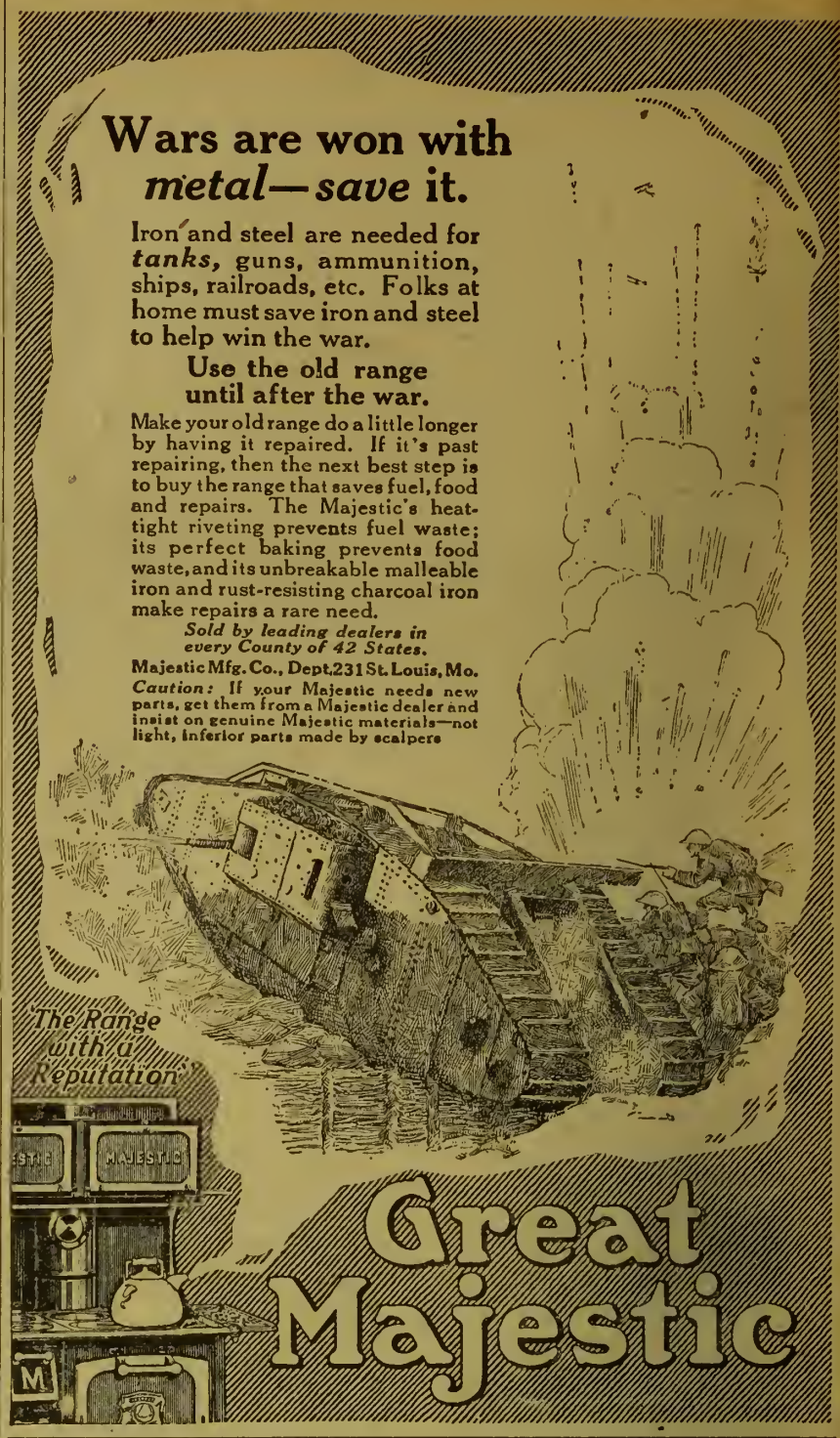
2546—A Set of Useful Bags. These models may be made of cretonne, silk, velvet, ribbon, crepe, denim rosatin. No. 2 would make a good laundry bag. The patterns are cut in one size. No. 1 will require 1⅛ yards. No. 2 will require 1¾ yards. No. 3 will require ¾ yard of 36-inch material.

2539—A Pretty Style. This model could be developed in serge and satin, gabardine and taffeta, gingham and organdy. It is also nice for checked or plaid material combined with plain silk or cloth. The waist pattern 2539 is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. The skirt 2527 is 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. For a medium size the entire dress will require 8½ yards of 36-inch material. The skirt measures about 2 yards at the foot.

2540—A Dainty Dress. Just the style for soft crepe, satin, chameuse, voile, marquisette, batiste, gabardine and taffeta. The waist closes at the left side. The sleeve may be finished in wrist or elbow length. In crepe de chine, with collar and cuffs of organdy, this model will be very pleasing. Cut in sizes 16, 18 and 20 years. Size 16 requires 5⅝ yards of 36-inch material. The skirt measures about 2 yards at the foot.

2538—For the Growing Girl. This is a good model for gabardine, silk, velvet, voile, serge, repp, linen and gingham, also other wash fabrics. The vest, collar and cuff portions may be of contrasting material. Cut in sizes 6, 8, 10, 12, and 14 years. Size 12 requires 4⅞ yards of 36-inch material.

2542—A Smart Frock. Good model for wash fabrics, for cloth, silk, satin, velvet, gabardine and serge. In this style, the front forms a plaited panel, to which the waist and skirt portions are joined. The sleeve may be in wrist or elbow length. Cut in sizes 6, 8, 10 and 12 years. Size 10 requires 3⅞ yards of 44-inch material.



The food administration in a Nebraska county asked the farmers to rake the fields after the wheat was cut. One man who rather prided himself on the neatness and thoroness of his work protested that there would not be enough grain secured to pay for the trouble. The administration insisted, however, and a boy spent three hours in raking the field, with the result that eleven bushels of wheat were added to the crop.

In the presence of a common enemy we sit at a common table with all people defenders.

Finances for the Farmer

Complaints have reached us from farmers to the effect that their local banks are not in position to extend credit for additional seeding of winter wheat, or for the purchase of machinery to handle a larger acreage of food crops. This question has already been discussed in some of its phases by the Colorado State Council of Defense. For the information of farmers we are publishing herewith copy of a telegram sent by Secretary of the Treasury McAdoo to Governor W. P. Harding, Chairman of the War Finance Corporation, some time ago:

"Drouths in Montana, parts of North Dakota, Kansas and Texas are creating a serious situation for the farmers there, involving possible abandonment of farms and sacrifice of livestock. I think that effective assistance can be rendered by the War Finance Corporation. The corporation was created to help finance industries essential to the war, and I know of no industry more vital to the war than that of raising wheat, corn, livestock and other food products. Aid should be extended by the War Finance Corporation to the farm industry and to every other industry which is vital to the prosecution of the war. I think the War Finance Corporation should make loans to national and state banks on farmers' paper. This would enable all national and state banks to extend loans to deserving farmers with full knowledge of the fact that such paper can and will under the terms of the act be taken by the War Finance Corporation. I am sure that the Department of Agriculture will be glad to co-operate in the same direction thru the agents and agencies of that department."

Farmers and stock raisers who have met refusal from their local banks when they applied for financing for legitimate objects, such as crop movement or crop production, and who have the necessary collateral, are urged to acquaint Western Farm Life with the circumstances. Any legitimate complaint of this kind will be fully investigated and, if there is any way in which the country banks can be put in touch with the evident intention of the federal government to finance the farmer it will be done. It seems that the Treasury Department is willing but there is a link missing between the country banks and the Federal Reserve System.

El Paso County Farm Bureau

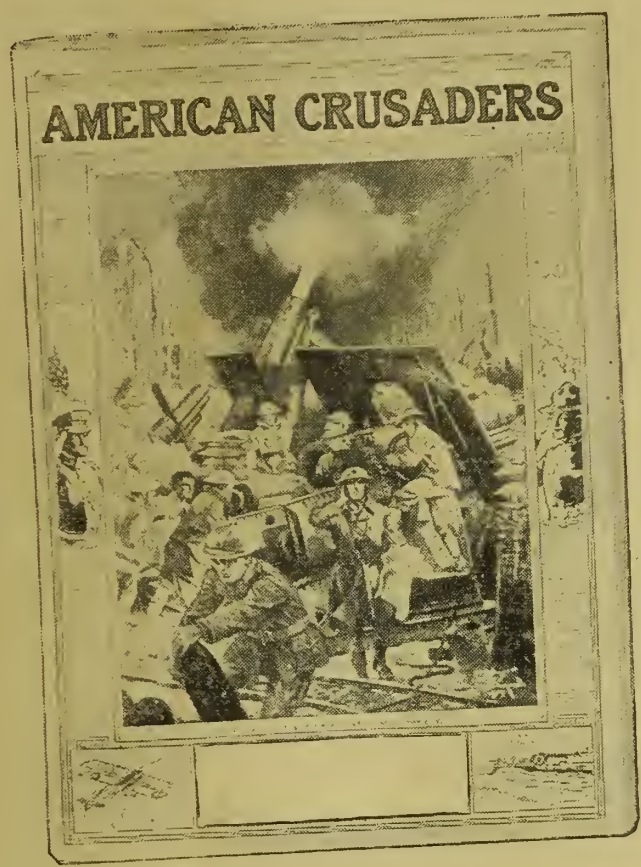
According to the constitution as adopted when the El Paso County Farm Bureau was first organized, three years ago, the membership was limited to representation by farmers' clubs only. At this time this was thought to be the most satisfactory way of handling the membership. In the meantime, however, it was decided that membership limited to clubs only was an unfair discrimination against those who happened not to be club members and who for some reason or other had not taken membership in any club. So after due consideration of the matter it was decided to amend that part of the constitution and have it provide for individual membership, thus giving every farmer and farm woman of El Paso county who wanted to become a member of the farm bureau the opportunity to do so.

New officers for the Farm Bureau were elected as follows: William H. Paul, Eastonville, president; Mrs. Della M. Cook, Peyton, vice president; Mrs. Raymond J. Hill, Hanover, secretary; and Ralph Walker, Monument, treasurer.

The retiring officers were, J. S. Watson, president; G. E. Crawford, vice president, and H. B. Rice, secretary-treasurer. The old officers were extended a vote of thanks by the meeting for the very creditable manner in which they had carried on the work incumbent upon them.—El Paso County Democrat.

The prominence which the Ukraine area of Russia has received as a source of foodstuffs for Germany lends unusual interest to its flour and bread prices. On May 20 the price of wheat bread in the Ukraine was about 40 cents per pound loaf; and flour 39 cents per pound. These prices, which are about four times as high as in the United States, are based on present currency equivalents.

PERSHING'S BOYS IN FRANCE



have thrilled the Allied World with their deeds "over there." FOLLOW THEM in their victorious march—

ON TO BERLIN

You cannot read the war news intelligently without a good War Atlas—one that will change "over there" from a vague "somewhere in France" into a REAL place, with REAL towns, railroads, rivers, and a REAL fight. "AMERICAN CRUSADERS" will do just that, and is the best practical Atlas for your needs.

This Atlas contains detailed maps in four colors of all the countries engaged in the Great War. Every town and post-office, railways, roads and streams are all clearly shown on big double-page maps. The location of America's own boys is shown along the German border, and in German territory where they are holding the trenches on the southern part of the Western front. Another double-page map shows the northern part of the line, where some of the biggest battles of the war have been fought.

This new Atlas contains 32 pages, 10x15 inches, and is printed in four colors on high-grade calendered paper. It contains 13 maps in colors, 3 topographical charts of battlefields, flags of all warring nations in colors, many large half-tone pictures showing war scenes, such as battlefields, firing lines, big guns, battleships, airplanes, etc. A full-page map of the United States shows the location of the 34 cantonments and all the Officers' Training Camps, Naval Bases, Forts, etc. It gives the Army and Navy rank and pay, and the insignia worn by all men in the service. This enables you to tell the branch of service and rank of each man by his uniform.

A SPECIAL FEATURE—There are four full-page, four-color photographs of President Wilson, General Pershing, General Haig and Marshal Foch. These pictures are all high-class work, and framed, would be an ornament in any home.

Our boys are in the Big Fight, and they are there to stay until Liberty and Justice has been established thruout the world. You will want more than ever to keep in touch with the moves of our armies. The maps in the Atlas are so clear and complete in detail that you can follow every move from day to day, and know just where the fighting is going on.

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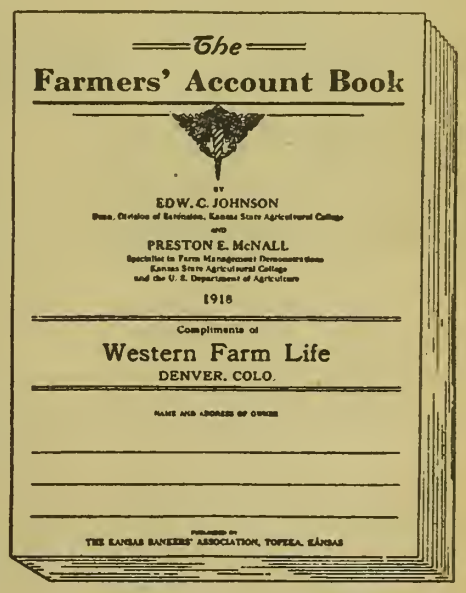

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Trapped

(Continued from Page 6)

"I still don't see what that has to do with it," Hobart insisted.

Scour said nothing; and Bill Marks waved his hands as though to brush the whole affair into the past. "Who's going with me to get wood for the bonfire," he invited.

Hobart rose. "I'll go."

Marks looked toward Scour. "Come along, Eben?" he asked.

Scour shook his head. "You don't need me. I—feel more like a swim." He rose and limped away and up the hill toward the little portable house he occupied. Hobart looked after him angrily.

"He gets my goat," he said.

"Get your boots on," Marks parried. "I'll go get mine. You'd better bring the big boat in. The Peanut won't carry two."

"Sure it will," Hobart argued. "Come along."

Marks shook his head. "I don't take any chances of an upset when I've got boots on. You bring it in."

He lumbered away to his own cottage, and when he returned with boots turned up above his knees, Hobart had gone out and brought in the big boat from the mooring, leaving the Peanut tossing in its place. The tide was at the flood, and they turned down the shore till they passed the last cottage, and then moved along the rocky beach, gathering driftwood and loading it into the boat until the load was piled high above the gunwales from the after thwart forward.

Again and again Hobart's talk returned to Eben Scour. "He grates on me," he said. "Bothers me. I don't trust the man."

Marks laughed under his breath. "Huh," he chuckled. "I r'member an old fellow up-town, Abe Wetherell. Young chap came to town and went to board at Abe's. Abe was telling about it afterward. 'I caught him taking some change out of my box in the table drawer one day,' he'd say. 'And then I heard he'd been saying things about me up-town, and one day I caught him kissing my daughter; and then, when finally he run away with my wife, I got so I didn't trust that man.'"

Hobart laughed shortly. "He has a sneaking way about him," he continued.

"There's a stump we've got to get," Marks cried. "Swing her bow in below that rock."

They worked up the shore again at length, Hobart at the oars, and Marks at his ease in the stern; and again Hobart returned to his talk of Eben Scour. Bill Marks was a poor listener, but he had nothing to say on the subject.

One section of the beach was consecrated to bonfires. It was a triangle formed by the high-water mark on one side, the sea wall of the Benton cottage on another, and the Benton breakwater that extended seaward on the third. There was a gravel bank here, and John Benton raked this smooth upon occasion, and spread old awnings and old rugs as upholstery upon the gravel when a fire was planned.

Hobart and Marks landed their driftwood there, piling it within reach of a heap of charred stumps that were left over from the last fire. Marks remained ashore while Hobart went on to moor the boat. As he was making it fast, he saw the head of a swimmer a quarter of a mile out in the bay, and recognized Eben Scour. The lame man was an unlovely object ashore but in the water he was as graceful as a salmon. Now his arms were flashing in the sun as he came rolling shoreward at an easy crawl. Something about the spectacle fascinated Hobart; and when he had climbed into the Peanut, he rowed out to meet the swimmer.

When he came near Eben, the man had stopped his crawl stroke and was treading water. His face was twisted. "What's the matter?" Hobart called softly.

"Cramp in my arm," Scour told him briefly.

Hobart's heart leaped, he flushed; and then he stammered: "This won't hold two—very well. Can you hang on behind?"

Scour grinned dryly, and before Nelson's eyes he sank slowly beneath the surface. Hobart gave a cry of horror and swung the Peanut that way. In the clear water he could see Eben distinctly. The man's bent body had drifted up, it was awash. His face was submerged. Hobart saw him grip his left wrist with his right and thrust hard on the cramped left arm; and he saw the arm straighten abruptly. Then Scour's face flashed up, his eyes grimly triumphant.

"Do you want to hang on—behind?" Hobart repeated automatically.

"Thanks," said Eben, "But—I pushed it out. All right now."

He slid forward through the water, his arm rose, he fell into the crawl again and shot past the Peanut shoreward. Hobart muttered under his breath, swung the boat around and rowed to the beach with no further word for the swimmer.

Anne Marshall met him on the beach. "May I take the Peanut—to get our dory?" she asked.

"Of course." He faced her eagerly. "Sha'n't I go out and get it for you?" She would have dissented, but he thrust the Peanut out again and started to row toward the Marshall mooring. "I'll bring it in to your beach," he told her.

"You're awfully good," she called, and watched him go. Her eyes, when he could no longer see them, became troubled. She started to walk along the beach toward her cottage, then saw Eben Scour swimming toward shore and hesitated, then halted to wait till he landed. Hobart, in the Peanut, stopped rowing for a moment as tho he would return, then went more swiftly on.

Eben landed at the girl's feet and limped up the beach to face her. "You swim beautifully," she said. The little man stammered with pleasure. "I've been trying for two years to learn the crawl. Wont you teach me?"

"I've seen you doing it as well as I."

She laughed. "For half a dozen strokes. But I was holding my breath all the time. I can't manage the breathing."

"Breathe in on the leg drives as you roll, breathe out under water."

She nodded. "I know—but I can't do it. When I breathe out under water the bubbles go in my nose, and then I'm lost."

"You breathe out thru your nose?"

"Yes."

"Try mouth breathing. Stuff your nose with cotton. I practised that way for a long time."

She would have said something more, but Hobart hallooed, and she turned and saw him rowing the dory toward shore. "I'm sorry," she told Eben. "You can show me some time. Good-by!"

He watched her hurry along the beach, but before she joined Nelson Hobart, the lame little man limped up the hill toward his solitary little house. Mrs. Marshall was on the beach when the girl got there, and Hobart helped them both into the dory, caught the Peanut's painter, shoved them free of the shore. "You'll be here for the bonfire, won't you?" he called.

The girl shook her head. "We're going over to the island for a picnic supper with mother's sister there. And I think we'll stay there tonight."

Hobart's face fell, he called something else, but she had whirled the flywheel of the engine, and its roar stifled what he said. She waved her hand to him, and the dory plunged away.

In spite of the absence of the girl, and of Eben Scour, who had walked to town after supper, the bonfire that night was a success. Bonfires at the Barbette always were. After supper John Benton and Bill Marks, old cronies and joint sovereigns of the Barbette colony, piled the charred stumps in a complicated design, filled in the intervals with smaller stuff, laid the upholstery on the pebbly beach, and waited for dark to fall. Benton called: 'You'll have to supply the libations tonight, Bill."

Marks snorted. "Why? I supplied the driftwood."

"Can't help it," Benton chuckled. "Our house can is empty, and I just got the cat locked in the shed where the big can is. If I go in she'll go out, and we'll never catch her."

Bill Marks groaned. "That's right," he complained. "That's six times you've worked that game this summer." He lumbered away, returned presently with a can of kerosene, and poured it gingerly over the piled wood.

John Benton climbed to his veranda where a great bell hung, and rang the bonfire call—three rings, then two, then three, and so on, ad infinitum. Herb Lewis came along the beach from his cottage and he and Bill Marks roared "Bo-o-o-o-o-onf-f-f-fl-i-i-i-i-re!" until the night resounded and the cottagers began to gather. Marks set a match to the oiled wood; but, as was his custom, he lighted the bonfire at the top, and it burned feebly for a space, and had to be lighted a second time, at the cost of more kerosene, while Marks suffered under the jeers of the spectators.

By the time the fire was fully aflame, most of the cottagers had gathered. They sat on the upholstered beach, their backs against the breakwater. Most of the women were knitting huge white army socks for the Red Cross. Some one began to sing:

"Row, row, row the boat
Merrily down the stream.
Merrily, merrily, merrily, merrily,
Life is but a dream."

This song is more complicated than it sounds, because as one set of singers finishes the first two lines and begins the third, another set begins at the beginning. There were good voices at the Barbette, and they leaped at that song and tore it limb from limb; and then took up, "Follow, follow, follow, follow, follow, follow me-e-e-e-e," which is much the same sort of a song, and then went on to "My Bonnie" and "The Tavern in the Town," and all the others.

John Benton was an attorney; he held court as a judge at these bonfires, and Bill Marks, on this particular night, brought suit against Hobart, and charged him with the theft of a certain driftwood stump. Witnesses were called; there was much oratory.

The bay was outspread before them, dark and chuckling in the night. Up the shore a single light showed where the lumber-laden schooner had anchored for the night. Across the bay, a shore light gleamed faintly through the night. Beyond the schooner the bug-light on the monument winked methodically, a second of light and a second of darkness following endlessly upon each other's heels; and across the water came, now and then, the melancholy ringing of the great bell on the bell-buoy near the light.

Bill Marks had begun his lecture on the Gulf Stream—a lecture that never had anything to do with the Gulf Stream—when Hobart called:

"The light's out of order again!"

Every one looked toward the monument, and someone echoed: "It is out of order."

The light was not winking regularly. Instead of the second of light and the second of darkness, the intervals of darkness were longer—two seconds, or three, or four.

The light continued this erratic behavior for a considerable time, while they watched and speculated. It was an automatic affair, that light. An acetylene tank supplied the gas for six months on end without replenishing; but there was no keeper on the monument, and the light not infrequently went wrong, requiring the attention of one of the tenders that cruised the coast.

After a time, however, the light seemed to right itself. Herb Lewis was saying: "It acted just like that when it went out this spring," and John Benton echoed: "And it stayed dark that time for three weeks, till the tender came in."

Even as he said this, the light resumed its regular winking. "It's all right now," Bill Marks told them. "And so, ladies and gentlemen, I will go on with my interrupted discussion of the Gulf Stream."

Hobart rose quickly to his feet. He had been sitting on a log at one end of the circle, and he walked around below the fire, looking along the row of faces, and came to where John Benton sat on a great round log that served as the judge's bench when his court was in session.

"John, did you notice anything queer about the way the light flashed?" Hobart asked softly.

Benton saw that the young man's eyes were shining, and he was flushed, and his voice trembled. "No," he said. "Nothing in particular. Why?"

Hobart hesitated. He looked once more around the circle. Then: "Where's Eben Scour?" he asked.

(To be Continued in the Next Number.)

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Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Will It Come to This

Eight eggs per person per year; two-thirds of an egg every 30 days. Sounds bad and almost impossible, but according to word just received thru the United States Food Administration from England, this is going to happen over there unless some one from outside helps out. Read the announcement below, then take a pencil and figure for yourself. Assuming that our population is two and one-half times that of England and that the amount of feed allowed per hen would feed 5,555,555 United States hens six months, and that beginning October 1 these hens would each lay 70 eggs, it is plain that each of us would have coming to us, eight eggs!

I don't like it; I like an egg every morning, but I'd be willing to forego that pleasure for six months if something could be done with our flocks to eliminate all but the worthy individuals. I'm not advocating this for the human race; I'm too fond of some very worthless specimens of humanity, but perhaps if rationing of fowls should come to pass in our country it might be a very great blessing. Who can say that the flocks of England will not be more vigorous, more pleasing to the eye and more profitable after such a close culling.

Great Britain has adopted the rationing of poultry. So great has become the shortage of feed that it is no longer justifiable to support even a hen, if she fails to do her part toward feeding the nation. Haphazard poultry-keeping must go. To distribute equitably the limited quantity of poultry feed and to encourage the better strains of poultry the Ministry of Food, acting with the Board of Agriculture, is putting into practice two systems of rationing.

A daily ration of four ounces of feed per bird will be provided for birds of the best utility breeds up to an aggregate amount of 50,000 tons of feeding stuffs for six months. Altho this seems generous, it must be remembered that the birds qualifying for the four-ounce ration are those which, under careful breeding and selection, have reached a high standard of egg production. The rationing scheme reacts to the advantage of the country, because it means the survival of the best fillers of the egg basket.

Owners of hens and pullets hatched since January 1, 1916, and not receiving rations under the four-ounce plan, may obtain certificates entitling them to purchase a specified amount per head per day. This ration is to be fixed from time to time according to the quantity of foodstuffs available. It will, of course, always be less than four ounces.

In order to obtain the special ration of four ounces per day—half grain and half a dry mash—fowls will be classified into first grade and second grade breeding stock. To come within the first category, fowls must be utility breeding stock for egg production or of high utility quality and of pure-bred stock. The standard of health must also be high. For a period of at least two years the stock must have been bred selectively to meet the above requirements.

Second-grade birds, which must be bred from proved layers, will receive rations only after the requirements of the first grade have been satisfied. A fair proportion of the allotted feed will be reserved for the best utility stocks of ducks, turkeys and geese. This information, received recently by the U. S. Food Administration, emphasizes the value in war time of well-bred farm poultry, for the British rationing plan practically decrees that hens must lay to live.

History of R. I. Reds

The following brief history of the R. I. Reds was written by the late Dr. N. B. Aldrich and is probably the most authentic and interesting accoun of the early history of the breed. It is published in response to a request for information on the origin of this breed.

Dr. Alfred Baylies of Taunton, Mass., imported in July, 1846, specimens of the yellow Cochin Chinas. The cockerels were generally red. These were not specimens of what were called the Royal Cochin Chinas, as bred by the Queen of England, but direct importations.

The Royal Cochin Chinas were one-third larger. The Shanghais were heavily feathered in the legs; these imported Cochin Chinas lightly feathered, if at all. The ship Huntress, in May, 1847, direct from Cochin, China, brot a pair of this variety of fowl, and Mr. Taylor, in speaking of them, says: "The imported cock was a peculiar red and yellowish Dominique, and the hen a bay or reddish brown; that the young stock varied only in shade of color."

Bennett stys, "The legs of both sexes are of reddish yellow, sometimes, especially in cocks, decidedly red—more so than in any other variety."

How many times I have called attention to the red pigment in a R. I. cock's legs.

So much, then, for the Red Cochin China cock of fifty years ago. The sea captains brot home just such specimens to Little Compton, R. I., but a little later came the great Malay fowl, with its knotty knob of a comb—a comb that even today occasionally is to be seen on the R. I. Reds. The Mersey Blues—Bucks County and Boodies—were inferior varieties of Malays. These Malays were spoken of as "serpent headed."

Their color was dark brown or reddish, streaked with yellow; some varieties of Malays ran more red than others. In Little Compton was introduced what was spoken of as the Red Malay.

The Red Cochin China cocks and the Red Malay cocks were selected, and crossed with the flocks of fowls in Little Compton, forty and fifty years ago, the same as today.

Later, before the Wyandotte fever, the R. C. Brown Leghorn was introduced into many flocks in this neighborhood. Even at the time of the introduction of the Leghorn blood, the red fowls were spoken of as R. I. Reds. In a certain section where the Leghorn blood was not used, today old settlers speak of their fowls as Red Malays; in this section ten years ago the Reds were all single combs, whereas, ten or twelve miles further south were to be found rose combs in abundance.

The Rhode Island Reds have been subject to a good deal of criticism by fanciers of other breeds who claimed that the Reds had no breeding back of them; that they would not breed uniform, etc., and they have been called scrubs, barnyard fowls, etc., etc.

This breed derives its name Rhode Island Red from the male bird. The utility farmer of that section of Rhode Island, known as Little Compton for nearly sixty years, has been selecting red males and leaving the females to be what they may. By this means they have carefully outbred this now famous breed.

Probably today there is not in the whole world another breed produced by fifty years of out-breeding. If it were only so, how much more vigor our several breeds would have. The Rhode Island Reds stand as the proof of what out-breeding will do. We fanciers do not live years enough to compose a breed deliberately, unless we inbreed, but it was not so with the original R. I. Red breeders; they knew the red cock was the most vigorous, and almost unconsciously they made a breed.

In reviewing this subject, one thing has struck me very forcibly, and that is that red cocks were numerous in 1850; just think of the different breeds that produced them. At the first Boston Poultry show, held at the Public Gardens, on November 10, 1849, Red Shanghais and Cochin Chinas, (the cockerels were generally red), were exhibited, as well as Plymouth Rocks, which were said to produce red males. At this time we also find Red Malays and Red Chittagongs. The Shakebag fowl was imported to this country by Mr. J. L. Tucker, of the Tremont house, Boston. Mr. Mowbray thus writes of one in his possession: "The only one I ever possessed was a red one in 1784, weighing about ten pounds." I do not need to quote more to prove that red cocks are nothing new, even tho the world did lose sight of them except isolated Little Compton, R. I. The red rooster of fifty years vanished to a small country village, but has now returned to the larger world. We all know how the old-time inbred chicken crank hates this new (old) out-bred breed. I am thankful that they are worthy of this narrow, mistaken in-bred contempt. Little Compton, R. I., and Westport, Mass., are adjoining towns, lying to the southward of Fall River, Mass. One small vessel of 1827 to 1850 made about twenty-five trips annually between Westport and Providence, R. I. The number of eggs brot on each trip to Providence, R. I., averaged 400 dozen. The total brot from that port by this single vessel in the term mentioned was 3,450,000, and the value of them was $35,500.

This gives you some idea of the value of the ancestors of the Reds in 1850, since which time the poulterers of this section have constantly been increasing their business and improving fowl and methods. Finally a few of us discovered the Reds, and the "Colony Plan" of raising fowls. We have tried to give the world the benefit of Little Compton's breed and experience, and trust that the R. I. Red club will prove as careful a guardian of the Reds as the wholehearted farmers of Rhode Island did.

(Note.—In a subsequent issue the description of this breed, as given in the American Standard of Perfection, will be published.)

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Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs," and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4167 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar bank guarantees if you are not absolutely satisfied, your dollar will be returned on request, and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—Adv.

Business Training Pays

Successful ranch men are business men. They study the markets; they keep records showing losses and gains. They give their sons and daughters the same practical training that the merchant gives to his son or daughter.

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Nothing, because *it pays big profits.* One cent a month per hen is the *investment* required.

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Why Hens Won't Lay

P. J. Kelly, the Minnesota Poultry Expert, 92 Kelly Bldg., Minneapolis, Minn., has published a book, "The Tale of a Lazy Hen." It tells why the hens won't lay and how to make them lay every day. Mr. Kelly will mail the book free to anyone who will write him.

Threshing Rates Held Down

Supervision of wheat threshing and adjustment of threshing rates worked out very well in Northern Colorado. A number of differences arose between farmers and thresher men, but in almost every case matters were straightened out by the county agricultural agents who have been of great service in carrying out the government's suggestions for economy in threshing.

In one instance, occurring in Larimer county where a strike was being fomented by members of a crew, the U. S. Department of Justice stepped in with warrants of arrest for two agitators who were interfering with food production. This action had the desired effect and no more trouble was experienced with crews attempting to hold up farmers.

In Adams county some of the thresher men working in the Eastlake district were asking unreasonable prices and taking the attitude that they were entitled to anything they could get. They informed the farmers that they had a right to charge what they considered it was worth to thresh, regardless of the price the farmer was to get for his wheat. When informed that prices must be kept at a reasonable figure several of the men stopped work.

County Agent George R. Smith of Adams county, in reporting on this incident to State Leader A. E. Lovett, said:

"We had a meeting with some of the threshermen until 1:30 in the morning. They told us that Boulder and Larimer and Weld counties were charging more for threshing and that they were entitled to more. We had informed ourselves as to the prices which those counties were charging, and as they were unwilling to thresh at the price we suggested, I advised that the best way to have the question settled would be to make a trip thru those counties. At first they were unwilling to do so, saying that they knew what it was worth to thresh and it did not make any difference to them what they were charging in other counties. We told them that we would make the trip without them if they did not wish to go, and that we would inform ourselves as to what the threshermen were doing in other counties and that they would have to comply with those rates or else not operate. Finally they picked out two men to make the trip and we made a trip of 160 miles thru Weld, Larimer and Boulder counties, to ascertain the prices on threshing, and how the threshermen were considering the prices. We found a little dissatisfaction in some places, but in general they were all willing to comply with the prices adopted. A couple of the threshermen who were threshing for a cent less a bushel in Boulder county told our threshermen that they were unpatriotic when they stopped their machines at a critical time like this and asked for unreasonable prices for threshing. As a result of the trip all of the threshing outfits are operating at a fair price."

From Larimer county comes the following report made by County Agriculturist D. C. Bascom:

"In company with Mr. Hoffmeyer, threshing machine operator inspector, I visited twelve machines on Monday and Tuesday. On Wednesday the report came that a Boulder county machine, which was operating in southern Larimer county, was wasting grain as well as refusing to thresh for some of the farmers in an isolated district for whom they had promised to thresh. We went into the territory on Thursday, and after investigating the matter thoroly, found it necessary to revoke the license of the threshermen. It is probable that a new license will be taken out soon by other men and the machine will not long be idle."

County Agriculturist C. G. McCord of Morgan county, reported that a very little time spent around each machine resulted in keeping the threshermen careful.

County Agriculturist L. J. Wormington of Phillips county, during one week visited over twenty threshers and tested their work, with the result that conditions were improved and threshermen were influenced to keep their machines and crews running efficiently.

In the San Luis Valley similar work was done by the agriculturists, W. O. Sauder for Saguache and C. D. Hyatt for Rio Grande counties. A joint meeting of the threshermen for these two counties was held at Center and a committee was appointed composed of the county agents and three threshermen, who investigated the average run of machine per day, the cost of upkeep, operation, etc., and on this basis arrived at a fair figure of charges for threshing.

In Jefferson county County Agriculturist F. C. Tripp made a visit to a threshing outfit that had refused to handle a field of wheat because it had been hit by hail and did not prove to be a profitable job. The county food administrator accompanied Mr. Tripp. After a conference, the threshermen decided to do the work at the rate of $7 an hour, which was considered a reasonable charge.

These reports indicate that food saving was accomplished and that threshing rates, while not legally established, were held down to a basis in accordance with the present guaranteed price of wheat. The rates varied according to local conditions and crop yields.

Emmer Bread Is Excellent

Experiments have recently been conducted at the Colorado State Experiment Station with emmer flour as a substitute for wheat. Housewives will be gratified to know that the results are highly favorable to emmer. An extension bulletin, prepared by Dr. W. P. Headden, the station chemist, says: "We certainly have in emmer an excellent substitute for a part of the flour used in bread making, one which is far better than corn or any of the other cereals usually recommended."

Following is a quotation from the bulletin:

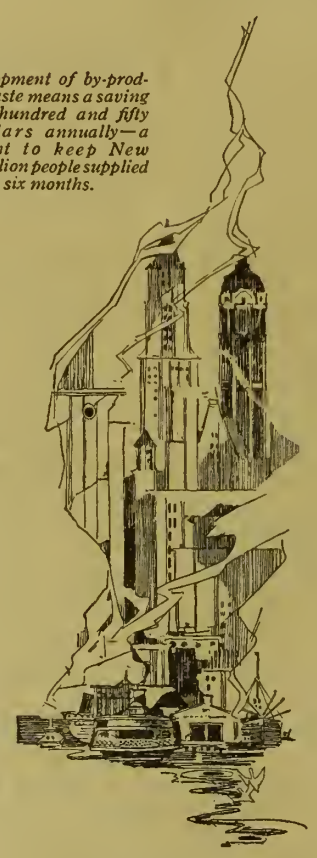
"In the tests made 25, 50 and 75 per cent of the wheat flour was replaced by emmer flour. With the introduction of 25 per cent of emmer flour no change was effected in the loaf that would be detected. This loaf was in every way equal to one made from this sample of wheat flour wit out any substitution, except in th matter of color. With 50 per cent emmer flour, the product was modifi but was not less pleasant to the tas than when no substitution was mad With 75 per cent of emmer flour, th resulting bread had the characteristi of one made from emmer alone."

Dr. Headden states that what litt literature he was able to find on th baking qualities of emmer flour wa misleading in the inference that it wa unfit for this purpose. He found to rise readily under the action yeast and, while the gluten is a littl soft, it is tenacious and a good lo can be obtained. The bread was darl er than straight wheat bread, but good texture and excellent in flavor.

Copies of the bulletin may be ha free on application to Director H. French, Extension Department, Agr cultural College, Fort Collins. It Extension Bulletin Series 1, No. 14 entitled "Emmer Flour, a Substitut for Wheat Flour."

How the packer is saving millions out of waste

—and how this results in higher cattle prices for the stockman



The development of by-products out of waste means a saving of about one hundred and fifty million dollars annually—a sum sufficient to keep New York's six million people supplied with meat for six months.

THERE was a time when the steer was handled solely for its edible meat, its hide, and its tallow.

The remainder of the animal, in weight totaling many millions of pounds annually, was thrown away—a sheer waste.

Today virtually all of this former waste is utilized. Over 250 articles are now contributed by the steer to human needs, and a larger proportion of the animal is saved for human food.

At the time of writing $135 is, on the average, the price paid for the average beef animal to the stockman by Swift & Company.

But if the old order of waste still prevailed and only the hide and tallow were saved, Swift & Company would be obliged either to pay not more than $125 to the stockman, or to charge the public higher meat prices.

Thus, you see, by-product utilization results in a saving of about $10 per animal—a saving which, when multiplied by the total number of cattle dressed annually by Swift & Company, over two million, amounts to more than twenty million dollars annually. This saving goes to the stockman in higher cattle prices and to the consumer in lower meat prices.

If applied to the entire number of cattle dressed annually in America, approximately fifteen million, this saving would amount to about one hundred and fifty million dollars annually.

The real development of by-products came with the development of the larger packing organizations.

Success was attained not easily, but by patient effort, by exhaustive experiment, by intense specialization. It has been a big job and has called for big methods—a job far beyond the resources of the old, unorganized system of local meat dressing.

Not only are the by-products saved but their value has been increased through better handling of hides, fats, and other edible portions of the steer.

Swift & Company is glad to have had a part in this development. It is an achievement of thrift—an achievement that has made possible today lower meat prices to the consumer and higher prices to the producer of cattle than would have been possible under the old methods.

Swift & Company, U. S. A.

A nation-wide organization owned by more than 22,000 stockholders

Farmers' and Stockmen's Exchange

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Advertisements under this head will be inserted at 5c a rd, four or more insertions 4c a word each insertion. No play type or illustrations admitted.

ANT TO HEAR FROM OWNER OF FARM OR fruit ranch for sale. O. O. Mattson, St. Paul, inn.

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HAVE CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give escription, location and cash price. James P. hite, New Franklin, Mo.

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OR SALE—PURE BRED SHORTHORNS. Bargain if taken soon. R. W. Clark, Fort ollins, Colo.

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PRING BOARS ALL SOLD, WATCH FOR our bred gilt ad January 15th. September gs at weaning time. Orange's Panorama, s al herd hoar $100 after November 15th. Bar- y Bros., Big Type Poland Chinas, Haswell, olo.

UROC JERSEY HOGS—THE BIG BONED, large prolific type. Young gilts by Orion herry King 15th out of big sows Defender d Coe breeding. We can also sell some extra rge hred gilts. Not how cheap, hut how ood. We would like to have you visit the nch and see for yourself. All mail orders led with the proviso, "Money hack if not tisfied." J. O. D. Ranch, Aroya, Colo., on P. R. R.

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HITE PLYMOUTH ROCKS—ONE HUNDRED cockerels from prize-winning stock, $5 esch. ebruary and March hatch, sll large, besutiful eds. F. L. Roy Toliver, Fort Collins, Colo.

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YOU ARE WANTED BY THE U. S. GOVERNment. Thousands positions for men, women and girls. $100 month. Easy work. Experience unnecessary. Write immediately for free list of positions. Franklin Institute, Dept. V 172, Rochester, N. Y.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24TH, 1912, OF "WESTERN FARM LIFE," PUBLISHED SEMI-MONTHLY AT DENVER, COLO.—FOR OCTOBER 1, 1918.

State of Colorado, County of Denver. Before me, a notary public in and for the state and county aforesaid, personally appeared W. S. Edmiston, who, having been duly sworn according to law, deposes and says that he is the husiness manager of the Western Farm Life, and that the following is to the best of his knowledge snd belief a true ststement of the ownership, management (snd if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and husiness mansger are:

Nsme of Publisher—The Farm Life Publishing Co., Denver, Colo.
Editor—A. T. Steinel, Denver, Colo.
Managing Editor—A. T. Steinel, Denver, Colo.
Business Manager—W. S. Edmiston, Denver, Colo.

2. That the owners are:
W. S. Edmiston, Denver, Colo.
A. T. Steinel, Denver, Colo.

3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities, are: None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contains not only the list of stockholders and security holders as they appear upon the books of the compsny, but also in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustee, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant hss no reason to believe that sny other person, association or corporation has any interest, direct or indirect, in the said stock, bonds or other securities than as so stated by him.

W. S. EDMISTON,
Business Manager.

Sworn to and subscrihed hefore me this 21st day of September, 1918.

KATHARINE LAWRENSON,
Notary Public.

(My commission expires November 27, 1921.)

How the Germans Get Food

An example of German methods of securing food is seen in the new regulations of the Bavarian Egg Supply Office. Poultry keepers are required to deliver to the government 40 eggs for each hen kept. The 1918 quota is due in September at a fixed price of 4 cents per egg. Measures of this character help to explain the ability of the German federal states to feed the population when food products fail to reach the markets in sufficient quantities as a result of voluntary sales by producers.

Raise Hares for Us

IMMENSE PROFITS easily and quickly made. We furnlsh stock and pay you $2.00 each and expressage when three months old. Contracts, hooklet and full information 10c. Nothing free. Address

Dept. 24, THORSON RABBIT CO. Aurora, Colo.

Shorthorn and Polled Durham Cattle

Valentine's Last, X12316, 452008 at head of beef herd. Claywood White, 427350 at head of milk type.

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Choice, high-grade, heautifully marked heifers or hulls, 5 weeks old, $20.00 crated f. o. h. cars. Write
W. C. KENYON & SONS, Box 39, Elgin, Ill.

50-Registered Holsteins-50

For sale at my ranch, three miles north of Parker and twenty miles south of Denver, on the Cherry Creek Road. October 11th, 1918. Choice cows and heifers from Pontiac Korndyke, Hengerveldt De Kol, Ragapple Korndyke and other high producing families of the breed. Judge De Kol Ragapple now heads my herd. This is one of the hardiest, best bred, best producing and finest appearing herds that has ever been sold at auction. Trains leave Denver at 7:30, autos meet trains at Parker.

Col. H. E. Buchanan, Denver Pure Bred Livestock Auctioneer, in charge of the sale.

N. R. D'ARCY, Owner.
Parker, Colo.

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred

We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Several cars extra good yearling bulls for sale. Write us for prices and detailed information.

OFFICES
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RAYMOND S. HUSTED, Manager
WM. J. ROSSMAN, Ranch Superintendent JAMES C. ADAMS, Salesman

200 Head Registered and High Grade Holstein Cows and Heifers

On account of shortage of help I have decided to sell my entire herd at private sale without reserve, consisting of:

40 registered cows and heifers, mostly all with A. R. O. records up to 26 pounds in 7 days.

40 fancy young high-grade cows exceptionally well marked, some fresh, balance will freshen in next 40 days, $115 to $135.

50 fine, thrifty, large two-year-old heifers due in October and November, $90 to $110.

65 fine, growthy yearlings from 15 to 20 months old; are bred to freshen from December to February; $65 to $80.

All stock bred in calf to registered bulls. This herd is absolutely clean and guaranteed free from abortion, tuberculin, and will be sold as represented. Will sell with purchaser's privilege of 60 days' retest. Descriptive catalog on registered stock ready October 1st.

MAGEE DAIRY FARM, Chanute, Kansas

DUROC-JERSEYS

We have the finest crop of Duroc-Jersey pigs that we have had in a number of years. They are sired by a son of Orion Cherry King, a grandson of Orion Cherry King, who is by a Grsnd Champion boar at National Swine Show two years ago, and by a boar of Golden Model breeding. We can give you as good a selection as can he gotten in the West. Write us your wants.

COLORADO AGRICULTURAL COLLEGE
Animal Husbandry Department Fort Collins, Colorado

High Class Jerseys and Durocs

"THE WESTERN HOME OF THE MAJESTY'S"

Do you notice that the Majesty's are going over the top in all departments? I saw the $10,000 cow sell the other day, and she is a "MAJESTY." The Majesty's are going on up. Mr. Breeder, hetter get a Majesty bull cslf while the getting is good. I have them. Also a few fall boars, splendid good ones, at right prices. I will have something still more interesting to tell you very soon about Msjesty's and Durocs.

A. M. McCLENAHAN, Greeley, Colo.

$25 HOLSTEINS $25

Five weeks old 15-16 pure, mostly white, $25 crated.
Two months old, $40.
Registered Bulls, two months old, best qnality, $70.
Two-year-old springers, $125.
Cows crated, $150. Csr lots write us.
Buy the hest, It pays in the end.

Dr. J. A. Roberts Stook Farms
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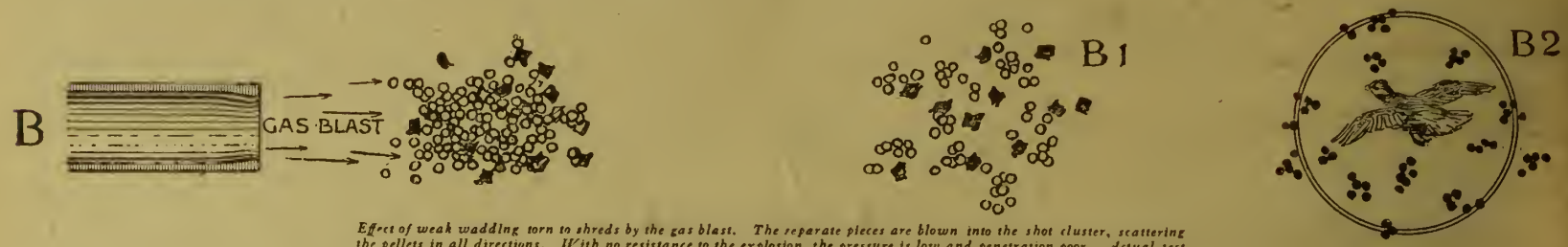
DRAFT HORSES AND BEEF CATTLE

I can show the huyer 288 imported and American Bred Percheron and Belgian draft stallions and msres. Will weigh at maturity snd in fat condition 1600 to 2350 pounds Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled-Angus, Gslloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with esch one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

Effect of hard wadding that fits the barrel loosely. Unchecked by friction or muzzle choke, it is blown through the shot cluster, scattering the shot charge. Actual test target, 221 pellets out of 431 or 51% of the shot charge (1¼ oz. of 7½ chilled) inside a 30-in. circle at 40 yds



Effect of weak wadding torn to shreds by the gas blast. The separate pieces are blown into the shot cluster, scattering the pellets in all directions. With no resistance to the explosion, the pressure is low and penetration poor. Actual test target 178 pellets out of 431 or 41% of the shot charge (1¼ oz. of No. 7½ chilled) inside a 30-in. circle at 40 yds

The Winchester system of wadding. The wadding expands evenly, sealing in the gas blast all the way to the muzzle, where it is checked by the "choke" or constriction. Shot cluster travels on ahead unbroken. Actual test target, 320 pellets out of 431, or 74% of the shot charge (1¼ oz. of 7½ chilled) inside a 30-in. circle at 40 yds

Effect of wadding construction on shot patterns

Poor wadding responsible for more faulty patterns and lost birds than all other gun and shell troubles combined

A strong uniform shot pattern depends upon how perfectly the *wadding* in your shells controls the five-ton gas blast behind it.

The wadding, like the piston head of a gas engine, must give the explosion something solid to work against so that the shot may be *pushed* out evenly.

It must expand and fill the tube of the barrel, completely sealing in the gas behind it. No gas must escape to scatter the shot.

It must offer just the right amount of resistance so as to develop uniform pressure and high velocity without danger of jamming the pellets out of shape at the "choke" or muzzle constriction.

The illustrations at the top of this page show actual test patterns, 50% to 70% faulty, the result of poor wadding.

The Winchester system

Winchester wadding is the result of repeated experiments to determine the most efficient control of the gas blast.

The special construction of the *Base wad* gives what is known as *Progressive Combustion* to the powder charge.

Combustion spreads instantly through the powder charge. By the time the top grains of powder become ignited the *full* energy of the burning powder behind is at work. Though the explosion is almost instantaneous, it is none the less *Progressive,* the final energy and maximum *velocity* of the completely burned powder being developed at the *muzzle*, where it is most needed.

Meanwhile, under the heat of combustion, the tough, springy Winchester *Driving Wad* has expanded to fill the barrel snugly all around No gas escapes. It is completely sealed in. The wadding *pushes* up the shot evenly.

At the muzzle the shot pellets slip out without jamming, while the wadding is checked for a brief interval by the constriction of the muzzle. *It follows some distance behind the shot pattern.*

The shot cluster travels on unbroken by gas blast or wadding and makes the hard hitting, uniform pattern for which Winchester shot shells are world famous.

Fish Tail Flash All Winchester smokeless shells are made with the new Winchester Primer—the quickest and most powerful shot shell primer made. Its broad *fish tail* flash gives even and thorough ignition. Every grain of powder is completely burned up before the shot charge leaves the muzzle.

The Crimp The required degree of pressure necessary in seating the driving wads is worked out in combination with the *hardness* or the *softness* of the *crimping* required for any particular shell.

Water-proofing and Lubrication In the cold, damp air of the marshes, or under the blazing sun at the traps, Winchester shells will always play true. Winchester water-proofing process prevents them from swelling from dampness. Special lubrication of the paper fibres prevents brittleness and "splitting" in dry weather.

Uniform Shells From primer to crimp, Winchester shells are constructed to insure the maximum pattern possible from any load and under all conditions. $100,000 is spent annually in the inspection and testing of finished shot shells. 25,000,000 rounds of ammunition are fired every year in testing guns and ammunition.

Clean hits and more of them

To insure more hits and cleaner hits in the field or at the traps, be sure your shells are Winchester Leader and Repeater for Smokeless; Nublack and New Rival for Black Powder. Write for our Free Booklet on Shells. **Winchester Repeating Arms Co., Dept. WC-4, New Haven, Conn.**

OCT 26 1918

WESTERN Farm Life

DENVER

OCT·15·1918

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IT HAS NO EQUAL

For the Human Body — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Boils, Corns and Bunions. CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Sore Lungs, Rheumatism and all Stiff Joints

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Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.

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So would a number of other people. Most of them, in their youth, would have given more time to preparation.

What you do in the way of education between the ages of fifteen and twenty-five practically decides your future position in life.

Secure a thorough business training this winter. It will pay you, whether you stay on the farm or decide to enter business.

Now is a good time to start. Write for catalog and full information.

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THE SELF-OILING WINDMILL
has become so popular in its first three years that thousands have been called for to replace, on their old towers, other makes of mills, and to replace, at small cost, the gearing of the earlier Aermotors, making them self-oiling. Its enclosed motor keeps in the oil and keeps out dust and rain. The Splash Oiling System constantly floods every bearing with oil preventing wear and enabling the mill to pump in the lightest breeze. The oil supply is renewed once a year. Double Gears are used, each carrying half the load.
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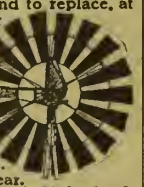

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Write for our free 125 page catalog, which illustrates and prices these gates, as well as more than 65 other articles for the irrigator including the "Armco" flumes, ditch lining, pipe, culverts, tanks, troughs and grain bins.
THE R. HARDESTY MFG. CO.
1837 Market Street DENVER, COLO.

Michigan Again

Last winter when the United States Food Administration, for reasons that were entirely patriotic decided to buy the pinto bean crop the magazine, Michigan Business Farming, in the supposed interest of growers of navy beans, let out a howl, charging the Food Administration with "underhand dealing" and other things, thinly veiling the accusation of grafting. Now that another season for marketing beans is upon us this same magazine unwittingly gives us one of the chief reasons for the pinto purchase by admitting what the trade and the growers knew last winter, that the Michigan crop was dumped on the market last fall in such poor condition that great loss resulted. Western bean growers will be interested in the following quotation from Michigan Business Farming:

First: Beans grown in Michigan and New York last year did not mature—at least 60 per cent of the crop contained a moisture content far above the highest average of any previous year. In fact the extremely wet season and cold fall made it quite impossible to reduce the moisture to a safe percentage and maintain it.

Second: The 1917 market opened brisk; there was no restriction on speculation, and the growers sold from the machines. The high prices caused elevator men to dispose of the beans as quickly as possible, and hundreds of cars of immature beans were speedily dumped upon a waiting market.

Third: Within ninety days two-thirds of all beans marketed were in the hands of wholesale grocers and the larger distributors, were heating and spoiling on their hands. In most cases these beans had been inspected and accepted on arrival, and the loss was up to the wholesaler. Where acceptances were refused the cars were returned and the loss fell upon the elevator men.

Fourth: Now, couple with the above the unwarranted and uncalled-for purchase and publicity given the pinto bean by the Bean Division of the Food Administration and you have a big enough scare to make a bulldog throw a fit.

If there is something to learn from the above it is undoubtedly the lesson that it never pays to market an inferior product. This lesson applies to the pinto grower as well as to the grower of white beans. For the spokesman of the Michigan industry there is this to learn: The pinto bean growers are now fully able to hoe their own row. An attitude of injured dignity on the part of the Michigan industry will only lead to further curtailment of the white bean market. If it is to be a fight the western growers are ready for it. If we are to get along amicably, each filling the demand from his own market, it will be very easy to handle the white and the spotted beans without cutthroat competition. Give the pinto growers another year of experience and a little more Michigan abuse and Michigan will have to eat her own beans!

Poisoning Ground Squirrels

The county commissioners of Bannock county, Idaho, realizing the large loss of crops caused annually by the depredations of the ground squirrel, last spring held conferences with the county agricultural agent, J. W. Sessions and W. E. Crouch, in charge of Rodent Control in Idaho, representing the Extension Division of the University of Idaho and the Bureau of Biological Survey of the U. S. Department of Agriculture, and plans were made to launch an organized campaign against this rodent pest in the county.

The county commissioners appropriated funds to purchase 3,000 ounces of strychnine alkaloid and sufficient saccharine, which was turned over to the County Farm Bureau and mixed with oats, as the bait, according to the formula developed by the Bureau of Biological Survey.

All of the mixing was done under the direct supervision of the county agent and general supervision of the representative in charge in the state. The mixed product was distributed to the farmers at less than cost of the materials, excepting the oats, which were supplied by the farmers. The farmers were instructed by demonstrations in regard to the way to distribute the poison to get the best results, and the farmers distributed the poisoned bait on their farms and road sides.

In addition to the work done on the farms, the farmers, in co-operation with the Bureau of Biological Survey, distributed poison on about 9,000 acres of public lands adjacent to the farms which served as breeding places for the ground squirrels. Over 4,500 ounces of strychnine was used during the campaign, and individual reports from about 75 per cent of the farmers co-operating, show that 35,376 acres of private lands were treated with 31,849 pounds of poisoned oats, resulting in a saving in crops amounting to $223,315, according to estimations made by each farmer reporting the results on his farm, and a possible loss of $264,268 had no poisoning been done.

This clearly shows that much can be accomplished in eradicating the ground squirrel if the work is done in an organized manner. Campaigns similar to the one conducted in Bannock have been carried on in 21 counties in the state.

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The Waterloo Boy has a record of pulling any load eight horses can pull. Its simple, powerful motor sends driving force into both the large, wide rear wheels which grip the ground firmly, pulling three 14 inch bottoms 7 inches to 8 inches deep, without packing the soil.
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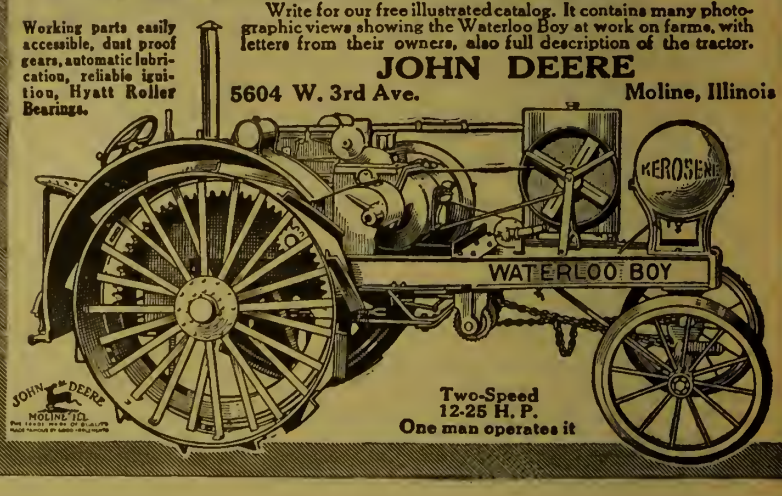

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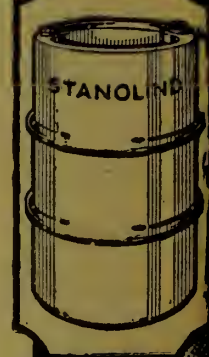

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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, OCTOBER 15, 1918 | Number 20

What the Editor Saw at the Colorado State Fair

ALSO THINGS WHEREIN EXHIBITION FAILS OF ITS PURPOSES

ALVIN T. STEINEL

The United States Government has given its approval to state fairs during the war because well conducted exhibitions of farm products serve to stimulate production and to teach the value of improved methods of farming. If these fairs are worthy of governmental sanction by the granting of special railroad rates and actual participation by showing governmental activities in the exhibits, the state of Colorado should not be less mindful of the benefits to be derived from active support of a state fair. Colorado will need a strong state fair more than ever after the close of the war, when there is sure to be a large influx of settlers seeking farms. Now is the time to prepare to meet this situation thru legislative action that will give our state fair a firm financial foundation.

COLORADO'S state fair at Pueblo, September 23 to 28, did not materially show the effects of the war in attendance figures, but emphasized and impressed the conflict on its visitors by the character of exhibits. The government of the United States took part officially by a most interesting display and gave its approval to state fairs by allowing a special railroad rate on the government operated railroads, a concession that has been given to no other gatherings during the year, except to the veterans of the Grand Army of the Republic for their annual reunion.

Two governors honored the fair with their presence and delivered addresses —Governor Bamberger of Utah, and our own chief executive, Julius C. Gunter.

There was much to see. The display of fruits was in keeping with the state's importance in horticulture. There was a good showing of dairy cattle herds; a quality showing of hogs, altho limited as to size; a totally inadequate display of beef cattle, and about enough sheep to make us think that Australia is our nearest wool producing district.

Eight out of a possible fifty agricultural counties were represented by displays of agricultural products.

No feature of the fair deserves as much favorable comment or as nearly met the requirements of a state-wide exhibition as the Boys' and Girls Agicultural club work. All sections of Colorado were represented in the canning demonstrations, put on by well trained school girls, who came under the supervision of chaperons and gave exhibitions of their skill in the conservation of foods, so important a part of the war work now devolving upon the civilian population. The boys, too, were on hand, those belonging to Pig club teams demonstrating their skill as judges of good hogs in a competition that aroused much interest among the adult exhibitors, who were surprised at the knowledge and sureness displayed by these youthful pork producers.

On Tuesday of fair week there was a parade of school children, comprising the Pueblo school war garden clubs, the clubs of Pueblo county and of adjoining counties and the teams sent in from more distant parts of the state. Four thousand boys and girls were in line. It was the greatest parade of the kind ever seen in the state and it meant much for the nation, because every young man and woman was doing an allottment of war work in gardening, canning, sewing, cooking, crop growing or animal production.

These boys and girls are growing up with a knowledge of what agriculture means to the state and nation, and whether they come from town or country, their whole future has been changed by reason of the knowledge they are gaining from the practical lessons in gardening, farming and household work. They helped make the big fair a success.

Where the Fair Was Weak

While there was much to see and much to praise, the fair was not representative of Colorado's importance as an agricultural state. It was weak in the very points where Colorado is agriculturally strong. It is possible to put on at Pueblo an exhibition that will show the people who view it the difference between our two special lines of agriculture—irrigation and dry farming; that will indicate our leadership in the development of both these classes of farming; that will show our wheat yields to be seven or eight bushels above the United States average and the weight of our grains to be in excess of those produced in the so-called wheat belt; that will show us first in the Union as a sugar beet producing state; that will show us independent of Germany for sugar beet seed because we now produce our own; that will show how we grow oats, barley and potatoes at higher altitudes than elsewhere in North America; that will demonstrate the quality of our potatoes, unexcelled anywhere in the world; that will show us as we are, the leading pinto bean producing state in the Union; that will give the visitor some idea of the state's adaptability in beef, pork and milk production; that will show how we lead the world in grass fed cattle and in fat lambs; that will indicate our supremacy in beef finishing on by-products and grains other than corn; that will recognize the Rocky Ford cantaloupe; the Garfield and Routt county strawberries; the Pueblo and Denver district celery the Brighton cabbage; the Greeley potato; the Longmont sugar pea; the broomcorn of the southeast counties; the corn of the northeast districts, and the many other farm products and methods in which Colorado is specializing.

There is so much material out of which to build a representative state fair that the list could be lengthened indefinitely. Naturally the war made it hard to interest remote sections, because of the ever present transportation difficulties; and the shortage of farm labor was accountable for lack of beef herds and for shortage in other livestock divisions. Yet we did not have a representative state fair before the war, and while it may be too much to expect one under the present stress, we must face the proposition now and begin to build for the future. This war is going to end some day and then agriculture in Colorado will take another jump forward. We shall be as much astonished ten or fifteen years hence in looking back to 1918 as we are now when we consider the meager beginnings of the nineties, when there was practically no farming outside of the restricted irrigated areas.

State, county and community fairs are the show places of agriculture, the annual inspiration to better methods and greater yields, as well as an advertisement of a growing state's advantages for the homeseeker. Colorado cannot afford to be without a representative state fair.

More Funds Badly Needed.

This is not said in criticism of the management, or of the people of Pueblo, who have tried against financial odds to put up a worthy exhibition. This year for the first time there has been available an apportionment out of the tax levy amounting to about $13,000, which sum is used mainly for premiums. More money is needed to put up better buildings and repair those now on the grounds. There is need for co-operation by the agricultural counties with the state fair management. Some of the most important counties were not in evidence in any of the departments. Denver was not there in the attendance list. The state capital has always been oblivious to the fact that Pueblo was trying to hold a state fair. These things do not need to be. We can pull together and not another year must pass without a strong effort to have a state fair worthy the name. Let us do it in the Colorado way or quit trying.

Government Exhibit

Advance notices of the government exhibit at the state fair had not in the least overdrawn the importance of this feature. There was a showing of all kinds of devices used in the war and of models of battleships, and a showing of arms and ammunition now being used on the battlefields. Men from the army and navy were in charge of the various exhibits, explaining to the people and answering questions concerning the use of instruments of warfare and describing methods employed by the armies of the allies.

The department of agriculture was represented in the government exhibit with special features illustrating the work of the Bureau of Plant Industry, the Bureau of Markets, the Bureau of Chemistry, the Bureau of Entomology, the Office of Roads, and the Forest Service. There was a lively interest in all of these exhibits, the building devoted to them being constantly crowded.

County Exhibits

Delta county won first pemium for the best all around exhibit of farm products. This exhibit not only included a creditable showing of all kinds of fruit grown in the western slope county but also grains, vegetables and other farm products. The exhibit was in charge of Mr. E. H. Divelbiss, county agricultural agent of Delta. Logan county won second prize for an exhibit which contained both irrigated and dry land products of excellent character. The third prize went to Cheyenne county, represented by a collection of products

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PARTIAL VIEW OF PROCESSION OF 4,000 BOYS' AND GIRLS' AGRICULTURAL CLUB MEMBERS

War Spirit Prevailed at Wyoming State Fair

HALF THE COUNTIES WERE REPRESENTED BY GOOD EXHIBITS

T. S. PARSONS

WYOMING'S state fair this year was conducted along altogether different lines than ever before. The war idea was the keynote of the whole exposition. The government exhibit brot home very forcibly the fact that the country is at war. War relics were much in evidence and many soldiers and sailors in attendance were constant reminders of the great conflict. The souvenirs from the battlefronts of France and Belgium attracted much attention and the Browning field gun was the center of interest.

Other departments and divisions of the government were also represented by interesting and instructive exhibits. The navy, bureau of plant industry, animal husbandry, foods, forestry and hospital work had fine exhibits and gave the people a fine opportunity to learn much of the working of the various departments of the government, thus bringing the war a good deal closer home to the people of the state. A vivid impression of war's destruction was made by the exhibit of gas masks, battered war helmets, and the guns and munitions from the battle fronts. All thru the exhibit were many reminders of the great struggle now being waged for liberty and justice.

Production and conservation seemed to be the keynote of the whole fair. The agricultural exhibits showed that there had been no lack of production in the state this year. Never before were better agricultural exhibits shown. The university thru its extension and home economics department made extensive exhibits and gave numerous demonstrations along the lines of food production and conservation. The department of home economics gave a demonstration dinner to eight people each day of the fair. The extension division showed county agent work, rodent control and other features of agricultural activities now being carried on for the improvement of farming conditions in the state. A conference of all the county agents and all other extension workers in the state was held during the fair. Other departments of the university were also represented by educational exhibits showing the various phases of work done by them.

Boys and Girls Work

Eight canning club teams representing eight different counties attended the fair and gave daily demonstrations in the canning of fruits and vegetables. These teams contested for the state championship and the winning team was taken to Sioux City, Iowa, to compete with the champion canning clubs from seven of the central states. The club from Sheridan county won the contest at the fair and departed, happily determined to win in the eastern contest. The canning clubs of the state also had on exhibition hundreds of cans of fruits, vegetables and meats. About every kind of meat ever eaten was shown, even to canned prairie-dog. The garden crops shown by the boys and girls were also first class.

County Exhibits

About half the counties of the state had agricultural exhibits at the fair. The dry-farm counties came in very strong this year on account of the excellent crops in the non-irrigated sections of the state. The displays of irrigated products were also above the average in quality. The Bighorn Basin is rapidly getting on the map as a fruit producing section. As a vegetable producing section it is unsurpassed. Bighorn county took first premium for the best display of agricultural and fruit products. Washakie followed a close second in the irrigated section and Niobrara county was first in the dry-farm exhibits. Washakie county easily took first money on the display sign made from agricultural products. The sign was about four by six feet and was made entirely of colored beans. The design consisted of an Indian head with the words "Washakie county." The sign was made by Leonard Fliehmann of Worland. More than 17,250 beans were used in the design and background.

Wyoming is not considered a fruit state but the fruit exhibited this year would do credit to any of the fruit states. The apple display of Bighorn, Washakie and Natrona counties was great. Plums, grapes, peaches and pears were also shown. The best individual display of fruit from one ranch was that of Frank Julian of Natrona county. Mr. Julian's orchard is at an altitude of about 5000 feet and he has developed many new and hardy varieties of apples. Natrona county is the home of Wyoming's greatest oil fields. It is the home of the big red apple as well.

Live Stock

The livestock entries at the state fair were light this year. Practically no dairy stock or hogs were shown, probably on account of labor conditions and poor transportation facilities. There was a smaller exhibition

(Turn to Page 8)

ONE OF THE COUNTY EXHIBITS AT THE WYOMING STATE FAIR

Twenty-two Tractors Took Part In Greeley Show

HUNDREDS OF FARMERS SAW THEM DO A GOOD JOB OF PLOWING

MASON E. KNAPP, County Agricultural Agent

THE Colorado farmer, like the American farmer everywhere, is looking for real labor-saving machinery. The automobile that took his well trained sons and experienced hired man to answer the war call has brot back untrained help and that in limited numbers.

What are tractors and trucks designed to do? Can they make good? The irrigation farmer has proposed one set of questions to the county agent regarding the tractor; the man on the great dry land acreages has already tried the tractor and still questions, can they do our work to advantage?

The writer, in an endeavor to be humorous, has described the tractor as "a stationary engine," but in every case where he found a tractor standing, careful investigations were made as to the reason. So many times the real cause proved to be the fault of the operator that the tractor demonstration impressed itself as a means of helping the situation.

The idea of a tractor demonstration found cordial support among farmers and tractor men alike and thus the tractor feature was easily annexed to the Central Community Fair for Northern Colorado. This was held at Greeley, September 18, 19 and 20. The demonstration feature grew steadily and strongly from this call for an emergency labor extensor—a machine to make the directing hand of the farmer produce results thru its operations. Let the tractor convince the farmer that it can be this friend in need.

The Farm Bureau of Weld County is progressive. It had plans for an educational community fair, and it readily incorporated the tractor demonstration as a highly desirable feature strictly in line with the aims of its fair.

A committee composed of two merchants of Greeley, E. H. Soper and E. W. Johnson; the great tractor farmer of Nunn, Rev. Cline, and Dan C. Straight of Greeley, a farmer experienced in operating threshing machines and tractors, was appointed to work on the tractor feature. This committee made plans along the lines of their practical experience and by excellent team work and infinite pains carried to success a demonstration far beyond the Bureau's hopes.

A large field of stubble land on the David Kelly farm, two miles north of Greeley, was secured. This was laid off in sections and lots were drawn for place by the twenty odd tractor men. So well had the committee worked that every tractor dealer represented in the district was present with the necessary equipment to take part. No expense was spared to have everything "fit."

At the signal of Field Manager D. C. Straight, of the tractor committee, the tractors, each at its station, plowed a straight furrow down the entire length of the 80-rod field. It was a fine sight indeed. Each machine had an attendant for plow troubles, but these were little used because of correct preliminary adjusting and the skillful driving. A corps of official measurers covered the field to see that the average depth of seven inches was maintained—no more than eight, nor less than six.

To the surprise of between 500 and 1,000 farmers assembled to pass judgment, the machines went forward and back over their respective lands doing the work according to requirements—delivering the goods. Despite a heavy growth of weeds in a stiff stubble not a machine was forced to withdraw or even stop because of engine trouble. The land is a fairly heavy soil, similar to that of the Eaton district.

No tractor pulled less than two plows; the largest was a five-plow unit. When the lands were finished each machine waited in place until all were ready, when, falling in one after another, the headlands were plowed. Here, after the first test was successfully completed, a second, more difficult, was imposed. But despite different speeds the drivers all met the tests successfully. Two of the tractors were driven thruout by women. According to several who have attended many demonstrations, this was pronounced the most successful and the best conducted they had seen.

An interesting feature of the demonstration, in addition to the plowing event, took place Friday afternoon on some extremely rough sod, where the lawn had been plowed up. The tractor used was a G. M. Co. with an Oliver tandem disc harrow, hitched tandem with an Oliver double gang pulverizer. This demonstration was in the nature of a revelation to many of the farmers who witnessed it. It left the ground pulverized in such shape, that except for leveling, it was in perfect condition for seeding back to lawn. It proved that the use of such tools on the plowed land would bring increased yields on account of the well prepared seedbed thus made. With horses, worn out after plowing, it is out of the question to use them in pulling the tandem disc harrow and pulverizer on the plowed land, but with the tractor,

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TEARING UP SOD AT THE GREELEY TRACTOR SHOW

TRAPPED

By BEN AMES WILLIAMS, Author of "Three In a Thousand" "Swords of Wax," "The Powder of Midas," Etc.

THRILLING STORY OF GERMAN INTRIGUE AND AMERICAN PLUCK—A TALE OF WAR, LOVE, ESPIONAGE, CUNNING, AND COURAGE

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A DEAD man in a drifting dory stirred the placid life of the Barbette, a summer colony on the coast of Maine. Nelson Hobart rowed out to pick up the dory. He had been playing fantan with Bill Marks, who, when not on vacation, was Will Thornton Marks, a high school principal, and Anne Marshall, a newcomer at the Barbette who, with her mother, had taken a cottage called the Outpost. Hobart was tall and bulky—an athlete whose athletic heart kept him out of the army. The girl first saw the drifting dory. Curiosity caused Hobart to row out to her in a quaint flat-bottomed shell. Bill Marks and the girl remained on the veranda watching the dory. The girl's face became pale and tense. "What is it?" asked Marks, "Are you all right?" She laughed uneasily and admitted an apprehensive feeling that there was someone in the dory. While they watched they were joined by Eben Scour, the silent, unsmiling man with the curiously hot, ardent eyes. An accident in boyhood left one leg shorter than the other. On land Eben Scour was awkward. He was as much at home in the water as a porpoise and swam gracefully. Scour looked at Anne Marshall. She was scarce breathing. Marks caught up a megaphone. "Why don't you bring her in?"

"'There's a dead man in her!" shouted Hobart.

"We'll have to telephone the Coroner," said Marks. Herb Lewis ran to telephone Dr. Snow. As Hobart came in he said to Marks, "He's been shot!"

Anne Marshall sank down in a chair, her eyes closed. Eben Scour touched her arm and asked if he could not help her to her mother's cottage. Then he rowed out to the pier where the dory had been made fast, while Marks and Hobart watched him.

"He's a grouch. Who is he, where did he come from?" said Hobart. Marks essayed the information that the little lame man came from upstate in Maine; that his mother was a foreigner—a Hungarian, he thot—but born in this country.

Scour made a minute examination of the corpse and while so occupied the Coroner came and Scour rowed in, pulling the dory after him.

The fisherman had been shot thru the head. A Mauser bullet lay half hidden under the folds of his oiled coat.

Bill Marks asked the doctor for his opinion.

"Don't you see it?" said Dr. Snow.

Marks shook his head.

"'The Mauser is the German arm."

As Marks went toward his cottage he saw Hobart and Eben Scour on the veranda of the Outpost with Anne Marshall and her mother. "Did Dr. Snow say anything more?" Hobart asked.

"Says bullet was probably a Mauser, and the Mauser is a German arm."

"The Mauser is also used in the German Navy," remarked Scour quietly.

That night the cottagers had their usual bonfire—but with the dead man and the dory as the subject of conversation. The girl and her mother were not there—gone "to the island for a picnic supper with mother's sister, and I think we'll stay there tonight," said Anne Marshall.

The cottagers were making merry when someone noticed the irregular behavior of the Bug light. It was an automatic light, supplied with acetylene gas for six months on end. There was no keeper in the lighthouse. The light not infrequently went wrong, but tonight Hobart watched it intently and turning to John Benton, the lawyer, he said, "John, did you notice anything queer about the way the light flashed?"

"No, nothing in particular. Why?"

Hobart hesitated. He looked once more around the circle. Then: "Where's Eben Scour?" he asked.

THE PURSE-NET.

The bonfire burned late that night. No one seemed of a mind to leave it. The wind died, and the night was warm, and the fire burned crisply. They sang and laughed, and the knitting needles clicked in every moment's silence, and Nelson Hobart sat at one side, his eyes watchful, studying each face; and at every sound outside the circle he looked up quickly, as tho he expected to see some one coming to join them.

In the end, his expectation was rewarded. Eben Scour came down the stepping stones past the Benton cottage and found a seat on a log near where John Benton sat. Hobart's eyes lighted at sight of the lame man, and after a while he came around the circle again and sat down beside Eben.

"Missed you," he said casually, after a time.

"Thanks," said Scour.

"Been up-town?"

Scour nodded. "Had a letter that I wanted to go."

Hobart looked at the lame man sidewise. "That must have been an important letter."

"It was."

"Against the rules of the Barbette to have any important business in the summer time."

Scour laughed shortly. "I'll remember—next time," he promised. They were singing "John Brown's Body," and dropping a word from the line with each repetition. Scour joined in:

"John Brown's body lies a moldering—
John Brown's body lies a moldering—
John Brown's body lies a moldering—
But his soul goes marching on."

When this song was sung, there was always some one who forgot to leave off the word each time, and that always meant laughter. But when little Eben Scour joined in every one forgot to laugh in the discovery that Eben had a voice. It was a deep bass—ridiculously deep in so small a man. Elbridge Hurley was sitting across the circle, and his bass voice was famous. As the song ended he called to Eben: "You and I'll have to get together, Eben."

Scour laughed assent, and Hurley came across, and John Benton called: "You two sing 'Rocked in the Cradle of the Deep' together."

They began to sing, and that song leads a bass voice down as deep as the sea. The very pebbles rocked as they sang.

But in the end the fire burned down, the cottagers began to gather up their knitting and their pipes and depart. In the end there were left only Herb Lewis, Marks, Benton, Eben, and Nelson Hobart. The fire had become a mere bed of embers.

A pencil of light fastened upon them from far down the bay. They turned to face it, and were dazzled.

"Search-light!" Hobart cried.

The light flashed off. Only darkness remained; but after five minutes the searchlight swept them again, searched the shore.

Presently, in the star glint on the water, they saw the silhouettes of a destroyer and four submarine-chasers that slid silently past the Barbette and on toward town. Their searchlights swept the waters before them. They ran into the harbor and disappeared.

When the Barbette woke next morning, one of the chasers was anchored off the Hobart cottage, and a boat came dancing ashore, and an ensign whose chin was still downy asked a thousand questions as to the dory that had been picked up the day before. He took Hobart's statement in detail, wrote it out, had Hobart sign it.

At the same time, the people of the Barbette could see the other chasers cruising along the opposite shore. Marks asked the young officer: "What do you people think of it?"

"German submarine," said the ensign crisply. "One had been reported off Newfoundland. The man in the dory probably came on them in the fog—and they shot him so that he could tell no tales."

"What were they doing up in here?"

"They weren't up here. He was fishing off the islands south of the bay. Dory drifted."

"You imagine they're planning a raid?" asked Marks.

The young officer was big with the importance of his own commission. "First section of our National Army is going to France shortly. They may be planning to attack the transports."

Scour looked at the young man quickly, scowled at him. Hobart saw the scowl, and thereafter watched Eben.

As the ensign returned to his speedy little craft, the destroyer came down from town. Flags fluttered above her bridge, and the chasers on the distant shore turned and sped toward her, and the one off the Barbette weighed anchor and fell into line behind her. The destroyer slid southward, the chasers trailing behind like ducklings behind their mother.

Bill Marks had a good pair of glasses, and he scrutinized the destroyer, and told the others: "She has that dory on her deck, forward."

With the departure of the war craft, the Barbette fell into its usual quiet routine. The drifting dory with its grizzly cargo was discussed, forgotten. There were bigger things afoot: a visit to the weirs on the northern shore of the bay, and a clambake there at noon.

In the excitement of preparation for this event, the mystery of the man in the dory was apparently forgotten; but Hobart did not forget, nor did Eben Scour.

Hobart had been repelled by his first sight of Eben. The little man's lameness, his wrinkled countenance, his habitual frown, all jarred upon Hobart; and there was an added influence that lent strength to his dislike in the person of Anne Marshall.

Scour had been late in coming to the Barbette. The girl and Hobart were fast friends before he came. They had fished together; they swam together; they played tennis as partners, and won supremacy over every other partnership on the Barbette. Hobart felt his liking for the girl growing, and he let himself revel in her company; and she seemed content to be with him.

But Scour's coming had made a difference. Hobart's jealous eyes saw, or thot they saw, that he won the girl's sympathy; that his very infirmities attracted her. When he ventured once to jeer at the little man, the girl fell silent and unresponsive. It was worse, he thot, than if she had defended Eben.

The thing was more tangible than that. Hobart was an athlete; he had played football, baseball, hockey in his college days. He used to excel in such matters. But he found that Eben was more than his match in swimming, and it irked him. He found, to, that the little man could handle a boat more deftly than he, rowing with a minimum of effort and a maximum of speed. And when Scour appeared one day with a racket and challenged him to a set, Hobart grinned in his sleeve at the prospect of an easy victory.

Instead, he had to fight himself out to win an eight-six set, and he lost the second set to the little man. Eben, for all his lameness, moved with a swift precision that took him across the court almost without effort, and he seemed to have an uncanny faculty for anticipating the direction Hobart would give to the ball.

When Eben and Bill Marks beat Hobart and the girl at doubles, Hobart's dislike crystallized into something stronger. It was into such soil that his first suspicions of Eben fell; and those suspicions, at first intangible, assumed strength and concreteness when he learned that Eben's mother had been a Hungarian.

The dead man in the dory, the ensign's word of a submarine on the coast—these added weight to his thoughts. But the thing that cinched his suspicions in his own mind had to do with Eben's absence on the night of the bonfire.

The bug-light and its erratic conduct—and Eben's absence. These were the things Hobart joined in his mind. For he had seen what none of the others had noticed—that the errors in the rhythm of the light's flashing had been in accordance with the Morse code. When one flash was skipped, Hobart counted it a dot; when two were skipped, he read it as a dash. He had perceived this too late to read the whole message on the night of the bonfire; and the letters which he caught were jumbled and meaningless, as no doubt a code was being used.

Nevertheless, he believed Eben was in some way responsible, and he believed that the light had flashed a message to a submarine in the darkness down the bay. And he resolved to watch Eben.

Thus matters stood on the day of the picnic, the clambake. They crossed the bay in a motor-boat John Benton had chartered, and they reached the weirs to find fishermen there with their dories ready to haul the nets. A school of alewives had been caught; and the waters within the weir shone with them.

The motor-boat ran alongside the weir, and Bill Marks caught one of the poles and held fast so that all might watch. Eben Scour went and sat beside him on the gunwale of the motor-boat, and Hobart stood behind Eben.

The weir was built like a winged corral, with two diverging rows of stakes and brush reaching shoreward. Fish moving along the shore at high tide found themselves between these wings, and rather than force their way thru the rows of brush, they worked out along the wings as the tide fell, seeking an outlet.

But the wings came together in an enclosure called the pound. From this pound there was no escape. It was circular, and around its sides the purse-net was hung, the bottom open.

While the people of the Barbette watched, a dory worked into the pound, and the fishermen caught the end of the line that ran thru rings about the bottom

DECK VIEW OF A GERMAN SUBMARINE NOW MISSING FROM THE SEAS

"German Submarine," said the ensign crisply. "One has been reported off Newfoundland."—From TRAPPED, by Ben Ames Williams.

of the purse-net. They drew it tight, closing the net, and then began to drag the net bodily into the dory.

The water boiled with the efforts of the captive fish. The little alewives, destined for the sardine factories about the bay, drummed like thunder on the bottom of the dory. The occasional cunners and sculpins and skates were thrown aside, to be consigned to ignoble uses as fertilizer. The net came steadily in.

Bill Marks was explaining the working of the weir to Eben Scour. "The whole business is a gamble. You get rich or go broke," he said. "A man uptown put in a weir at the point below the Barbette last year, and laid out close to two thousand dollars on it—and he never stocked a pound of fish. The whole thing went out in a storm last winter. And, on the other hand, a man over on the island got close to two thousand bushels last summer, when alewives were a dollar twenty a bushel. Got two thousand bushels in two days."

An ugly lamper eel—eel-pout—two feet long and black and ugy as sin, came up in the net. "There's a pretty creature," Eben grinned.

"They get everything you can imagine; I've seen the net half full of mackerel," Marks told him.

"And they close the net at the bottom—after the fish are in."

Bill Marks nodded. "That's called a purse-net," he explained. "The fish work down into the pound, and the net is waiting for them there."

"Purse-net," Eben repeated, his eyes suddenly thoughtful; and after a moment he rose and turned away and walked forward, looking far down the bay, the weir forgotten.

Hobart watched him for a moment, then walked after him. There was a fascination about Eben for the young man. He touched Scour on the shoulder.

"You seemd interested in that net," he said softly.

Eben turned with a start, smiled. "I didn't hear you," he apologized. "What was it you said? I was—thinking."

"Thinking?" Hobart echoed. "What about?"

"I was thinking that other things besides fish might be caught in a purse-net," said Eben Scour.

CHAPTER V.
THE BELL-BUOY.

When the peope of the Barbette had seen the end of the process of harvesting the fish in the weir, they anchored the motor-boat and landed in the flat-iron shaped dingy which served as its tender. The men had brought clam hoes and clam forks and buckets, and they set to work among the seaweed-covered rocks, digging clams for the feast that was to come. At the same time the women gathered seaweed; and within the hour, stove-pipes full of clams were baking over three fires high on the beach.

Nelson Hobart tried to get from Eben Scour some explanation of that word of his as to the possibility of catching other things besides fish in a purse-net; but the wrinkled little lame man only smiled at him and parried his questions. Hobart fumed helplessly.

When the clams were baked and eaten, and home-going time had come, Eben went to Bill Marks, who was steering the power craft. "Run us past the bell-buoy, will you?" he asked.

Bill Marks nodded. "Delighted, Mr. Scour," he declared with the utmost dignity; and then announced loudly: "Ladies and gentlemen, at the request of Mr. Eben Scour, the return voyage will include a tour of the bell-buoy."

Every one laughed. The boat got under way, swerved, and straightened out on a course that would take them past the bug-light on the monument, and straight to the buoy. The light was perhaps half a mile from this shore, the buoy half a mile farther down the bay.

The light was set in a white tower about eight feet tall, which stood, in turn, upon the square pyramid of stone blocks, bolted and braced together, which bore the name of the monument. At low tide the rocky ledge upon which the monument was set was visible.

As the motor-boat reached the monument Herb Lewis, in the bow, called: "There's a lobster pot ahead, Bill."

Marks called back to the man who was running the engine, and they slowed and swerved to look at the white, wooden buoy which floated to mark where the pot lay. "Is it one of Parry's?" Marks asked.

"No. He marks his buoys with a cross," Lewis called. "'Tain't one of Farrell's, either."

Alice Hobart, Nelson's sister, cried: "Let's pull it up and see if there's a lobster in it."

Lewis caught up the boathook. "Lay us alongside her, Bill!" he shouted.

Marks brot the boat around and past the buoy. "If there's a lobster, we'll go back and cook him," he promised. Every one crowded forward to watch the process of dragging the pot to the surface. Herb hooked the line which was attached to the buoy with the boathook and lifted it to the gunwale and began to haul it in. "Say, this is the heaviest lobster pot I ever hauled," he grunted.

Hobart saw Eben Scour move quickly forward to the rail; and the little man's face was intent and serious. Hobart watched him. Lewis hauled the line. It came more and more heavily, and suddenly a small keg appeared on the surface. Lewis took a turn with the line about a cleat at the bow of the motor-boat and wiped his forehead. "Say, what kind of a lobster pot is that, Bill?" he called to Marks.

"They put a float low down on their line sometimes," Marks told him. "Keep hauling."

"Yes, that's easy to say," Lewis objected. "But this is hard sledding. Take a hand here, Scour."

Eben took a grip on the line, and he and Lewis painfully dragged the keg aboard; and then a hush of surprise fell upon them all, for below the keg the line gave way to a thin steel cable; and when they tugged at this cable, it was more than the combined strength of four men could do to lift it into the boat. Lewis gave up first. "She's too much, Bill," he shouted to Marks.

"Better let her go," Marks told him. "No telling what's on the end of it."

"You're right, son," Lewis agreed. "Gov'ment may have put down some mines here around the monument."

The keg splashed overboard, the line ran over it, and the wooden buoy dropped and bobbed idly on the waves again. A curious silence had fallen upon the motor-boat; and every one looked back at the buoy as they drew away.

Hobart went to Bill Mark's side. "Did you notice Eben Scour's face when we pulled that keg up?" he asked.

"No," Marks told him shortly.

"I believe he knows what's down there!"

"I'm going to report the thing when we get ashore. Might be important."

"And I'm going to keep an eye on Eben Scour," Hobart declared.

They reached the bell-buoy and circled around it. The bell was hung from a four-legged framework which reared itself ten feet or more above the water; and four clappers hung around the outside of the bell and tapped it as the buoy rocked in the waves. The great air-chamber of the buoy stood a foot out of water, and there was a hatchway that opened down into it, now riveted fast shut. The buoy tipped majestically this way and that, and the clapper tapped at the bell with a rasping clang indescribably mournful. "I don't like to watch it," Alice Hobart called. "Let's go."

Bill Marks threw back his head and laughed aloud. "I was waiting for that," he declared, and straightened the boat out in its homeward course.

The Barbette depended for its mail upon a rural free delivery, and letters and papers arrived at a little after noon. The papers were waiting when the people of the Barbette landed from the motor-boat; and there was news in them. A German submarine had been sighted by patrol boats at the mouth of the bay; and a swarm of chasers spread over the water, waited, detected its wake in the shallow waters along the shore, and successfully exploded a submerged bomb against the submarine's side. The craft had been destroyed, and a diver had inspected the wreck where it lay in sixty feet of water. The papers had also the story of the dory with the murdered fisherman; and the two events were connected. The wrecked submarine was to be floated and repaired.

The news set the tongues on the Barbette going; and for a time Bill Marks forgot his intention to telephone the word of the strange lobster pot near the monument. When he finally remembered, dusk had fallen. He telephoned the police in town, and they notified the destroyer base at the mouth of the bay.

Hobart, when he read the story of the destroyed submarine, went at once to find Eben Scour. The little man had hurried away as soon as the party landed from the motor-boat, and had gone to the little house he occupied. Hobart found him there, and Hobart had the paper in his hand. "Have you seen this?" he asked.

Eben looked at the paper. "I don't get a daily," he said quietly. "What is it?"

Hobart held out the paper, and Eben saw the headlines, and took the thing quickly from Hobart's hand and read the story thru without glancing at the other man. When he had finished he looked up—and smiled.

"You'll get a Congressional medal for finding that dory before this is over," he laughed.

Hobart had watched the little man's face while he read for some hint of emotion; but he had been disappointed in his hopes. Eben seemed entirely unconcerned; his voice was calm and unshaken.

"I believe that lobster pot had something to do with the submarine," Hobart said harshly.

"Maybe. Eben agreed. "That's a clever notion. You ought to tell some one about it."

"I intend to," Hobart snapped. He stared at the little man, and Eben bore his scrutiny with a smile, so that in the end Hobart turned and walked swiftly down the hill to his cottage.

But from his window he watched; and when, a little later, he saw Eben come out and start up the path toward the road, he snatched a cap and followed.

It was late afternoon, and he did not wish Eben to see him. So long as Eben stayed on the winding path, it was easy to keep out of sight, but when the lame man reached the road and tnrned toward town, the matter became more difficult. The road was straight, and it was flat. Hobart hugged the bushes at one side, ready to slip into them and out of sight if Eben should turn to look back. But Eben did not turn. He went steadily toward town, and Hobart followed.

On the outskirts of town, the road divided into two streets which ran parallel, one thru the business section, the other thru the residential district. Eben took the upper way. Hobart followed. As he neared the heart of town, Eben stopped at a fine old white house with a great woodshed and barn attached in the rear in the New England fashion; and he entered.

Hobart settled himself to wait; and when half an hour had passed and Eben had not reappeared, Hobart stopped a passer-by to ask him who dwelt in the house Eben had entered.

"Th' Hoopers," said the man.

"Are they—new people?"

"Lived here fifty years."

Hobart was vaguely disappointed. He thanked the man and turned away. The afternoon dragged along. He began to realize that the hour for supper had come and gone, and dusk was falling when Eben at last emerged. The lame man went on toward town, and Hobart followed.

Eben went to the post-office, and Hobart, from the street outside, saw him send a registered letter and take a receipt for it. When Eben turned to come out, Hobart backed into the shadows of a doorway and watched. Eben turned down the hill toward the water. Hobart followed.

Eben went swiftly for two blocks, and stopped at a drug store. A man met him there; an elderly man with gray hair. Hobart recognized him without being able to remember his name; and he saw this man introduce Eben to another, younger, roughly clad. This younger man and Eben left the drug store and

(Turn to Page 22)

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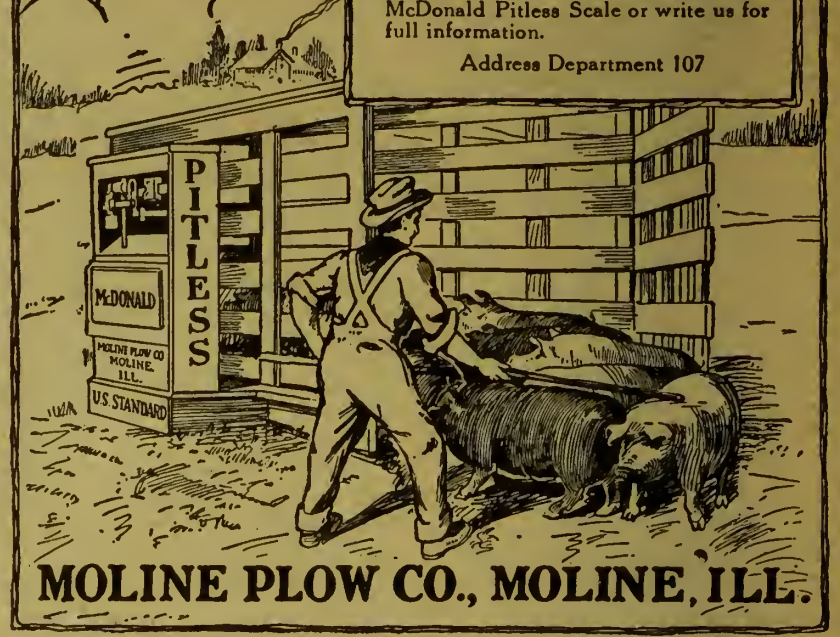

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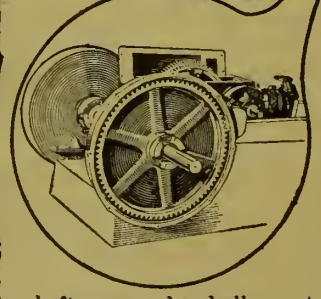

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Solving the Farm Wage Problem

COUNCILS OF DEFENSE TAKE ACTION

Prompt action on the part of the State Council of Defense in backing up recommendations made by the Labor representative of the United States Department of Agriculture for Colorado, is saving the farmers a lot of trouble in Northern Colorado, which threatened for a time because of the work of unprincipled agitators. A movement was on foot to force the farmers to pay exorbitant labor prices, because of the shortage and the necessity for getting the beet and potato corps under cover before winter sets in. "Charge all the traffic will bear," was the word that agitators were spreading among the groups of laborers in Northern Colorado towns.

When the situation was reported to D. W. Thomas, the labor representative of the Dept. of Agriculture, he immediately called a conference at Fort Collins, attended by county agents in the territory affected, and by representatives of farmers' organizations and laborers, to arrive at a fair scale of wages. At this conference a scale was adopted and steps were taken to handle slackers on both sides—the laborer who attempts the hold-up game and the farmer who outbids his neighborhood on wages in order to get preferred service. Public sentiment is the means of reaching both classes, with action by the local draft boards in cases where men refusing to work are registered. In such cases there will be prompt induction into the army.

The following wage schedule governs in Larimer, Weld, Boulder, Adams and Morgan counties, and has been posted everywhere with the signature of the county Councils of Defense:

Ten hours in the field basis, applicable only thru harvest: Single hand: $4 per day with board; or $85 per month with board; or $5 per day without board.

Man with two-horse team, $6 per day with board; $8 per day without board.

Picking potatoes in the field, without board, 10 cents per sack.

"This schedule is based upon fairness to all concerned. It is in line with the general increase in wages, the cost of living and value of the commodities affected," says the placard.

"TO OBSTRUCT OR INTERFERE WITH THE HARVESTING OF BEETS, POTATOES OR ANY OTHER CROP IS TO AID THE ENEMY.

"The boys who have gone over from your home town, or neighborhood, are not quibbling over wages and working hours. Deviation from the above schedule as well as refusal to work, will be promptly reported and dealt with.

"COUNTY COUNCIL OF DEFENSE."

Recommendations sent to all communities in the state for handling the problem under this outline are given by the Department of Agriculture labor representative as follows:

Farm Help Emergency

PROCEDURE

1. Call a conference at once (within 24 hours if possible) of the following:
County Agricultural Agent.
County Food Administrator.
Manager of sugar factory and field men.
Officers of farm organizations in county.
Sheriff and chief police officer of towns in county.
Chairman of local draft board.
Chairman of Council Labor committee.
Labor agents (if any in county) of U. S. Employment Service or of Food Administration.
Officers of Commercial clubs in county.

2. Give the fullest publicity to the wage schedule as recommended, and to the plan of enforcing it, which follows.

3. Organize within your Council of Defense a special committee to handle this matter, i. e., to receive and pass on complaints, provided, there is no such committee in your council at the present time, nor an executive committee that can assume the duty.

4. Advise all field men and others in position to act, to report promptly cases of:
(a) Farm help which refuses to work, willfully damages machinery, livestock or crops, or otherwise acts in a manner calculated to interfere with the production of foodstuffs.
(b) Farmers who bid against each other for labor, steal labor from their neighbor, or otherwise obstruct the operation of this plan.

5. On receiving such reports or complaints the committee will summon the parties complained of, state the facts clearly to them and give them every opportunity to explain their action. In the case of farm help, if the party complained of is not amenable to suggestion, the committee will publish the facts in the county press, transmit the same to the councils of adjoining counties, and bring them to the attention of the local draft board, with the suggestion that the party be not considered for deferred classification.

The committee will also bring the facts to the attention of the county sheriff and the chief peace officer of each town in the county.

When the party complained of is a farmer a similar hearing will be held by the committee if the circumstances warrant such action, following the hearing the party and the act should be given full publicity, the facts reported to neighboring counties and a complete memorandum of the case placed with each farmers' organization for appropriate action.

In the case of either farm help or the farmer who violates the spirit of this plan they should be deprived of the privileges of the local labor exchange bureaus and no help should be given them in either securing work or securing help.

6. The peace officers receiving reports from the above committee will make special effort to see to it that the parties complained of are not allowed to loaf or remain idle. Enforce ordinances with the utmost strictness.

7. The County Council of Defense will take immediate steps, if this has not already been done, to mobilize the business and other town men as emergency corps. It is suggested that all be registered and a detailed statement taken of what each individual can do to best advantage, in anticipation of a possible call to aid in the harvest. This should be done in EVERY TOWN. Such action will strengthen civilian morale, will serve notice on labor slackers that they are "in wrong" and will demonstrate to the farmer that the whole community is supporting him in his effort to keep up production.—D. W. THOMAS.

Prevent Freezing of Spuds

A practical hint for potato growers who are not supplied with farm storage comes from Morgan county, Colorado, and is reported to us by a subscriber there as follows:

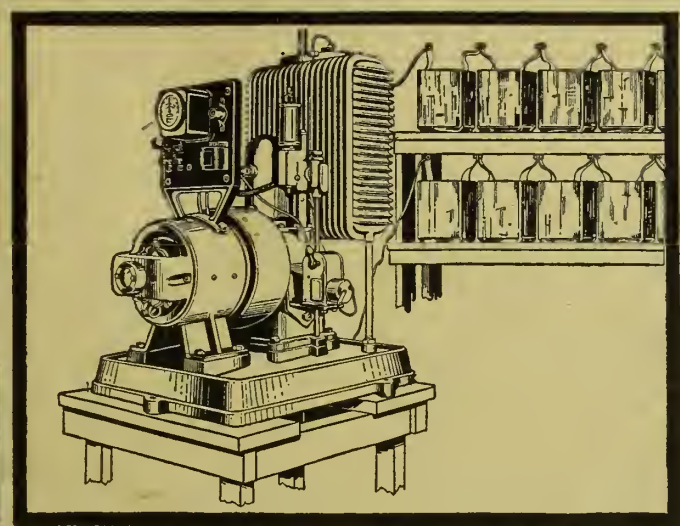
"When it grew cold suddenly a year ago and one of my friends saw that he would not be able to dig his potatoes before freezing weather he took his cultivator and went thru them, throwing as much loose soil upon the rows as possible. In this way he prevented their freezing. This proved to be successful in saving his crop. I thought the idea ought to have a wider circulation, hence I am sending you the suggestion. The farmer who did this is Mr. George R. Gilmore."

The subscriber who sent us the report preferred not to have his name mentioned and closed with the statement, "With best wishes for the Western Farm Life, which to my mind is a very wide-awake farm paper."

In spite of the shortage of sugar the women of the Rocky Mountain region have made a wonderful record in canning fruits and vegetables this fall.

Hit hard and quickly for all we have and are and hope to be!

ALAMO Electricity



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AN electrically equipped farm has wonderful advantages over all others. All who live and work on these farms have a part in the comfort electric power and light brings. All share in this great convenience.

Alamo Electricity Solves Rural Problems

Alamo Electricity keeps children at home. Boys now take keen interest in modern farming. Girls find the new-way housekeeping enjoyable. Older folks find relief from many daily tasks that are drudgery under old methods.

A Vital War-Time Need

Alamo Electricity does quickly and cheaply work that formerly required much valuable time. It releases man-power for the more important war work. It is also an important factor in solving the problem of labor shortages. Hired help is attracted to the farm. And it keeps them there.

The Fully Perfected Unit

The Alamo unit includes all the choicest features. Many are exclusive advancements discovered by Alamo engineers. Its engine — the Ide Super-Silent — has no springs, cams or rods to cause trouble. Its carburetor is designed with a special fuel-saving device. It clears itself of troublesome carbon.

The Alamo automatically stops when water, oil or fuel get low or when batteries are fully charged. It starts by merely pressing a button and operates without vibration or noise. It is perfectly balanced and requires no special foundation. Simply install it in a convenient place, start the engine and adequate power and light is then your servant — a sure-working, never-tiring farm helper.

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Please send your ALAMO BOOK of farm light and power facts and information about the ALAMO UNIT.

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Postoffice..... R. F. D.....

County..... State.....

Western Slope Fair

The Western Slope Fair held at Montrose, September 17th to 20th, was of unusual interest and was visited by the usual large crowds. All of the departments were very well filled with entries.

One of the most interesting features of the fair was the Wild West program staged in the usual good manner by Al Neale. One of the added attractions this year was the program put on by California Frank and his company. California Frank, or Mr. Haifley, as he is known in ordinary life, has recently purchased property on the Western Slope in Ouray county. He had a number of very well trained horses which were much enjoyed by those in attendance.

The display of agricultural products was well arranged and the quality was very good. Among the large exhibits from single farm were those of of John Howell of Montrose, J. J. Ross, Montrose, and Chris Picker of Olathe. The fruit exhibit was a credit to this section. A great deal of interest was manifested in the mineral display. The county of Montrose had a creditable showing of radium ore samples which runs $9,100 in value per ton.

The showing in the livestock department was better than in former years. There was an excellent showing of Duroc-Jersey hogs from Wilson & Artt of Delta, Judson Solomon of Olathe, Garmesa Farms of Fruita, V. A. Phillips of Cedaredge, E. Feighner, Montrose; Wilson Bros., Olathe, and R. H. Spencer of Montrose. The classes were well filled, there being as many as 25 entries each in two classes. The quality of the Durocs was better and the competition stronger than was true in former years.

In the dairy exhibit there were two entries of Holsteins as follows: Loesch Bros., Montrose, and Garmesa Farms of Fruita, Colo.

One herd of Guernseys shown by R. W. Romig of Montrose attracted considerable attention. As a whole, the quality of the animals in this department was very good.

The showing of horses was not up to the usual standard. This was due to the rush of work in marketing of crops.

Much good has resulted from holding the fair. There were many pure bred sires sold to local farmers. This will tend to further improve the standard of livestock on the farms.

Some have seen fit to object to the holding of fairs during war times. It is not the purpose of the government to interfere in any way with the holding of fairs when it results in an improvement of general agricultural conditions. It is felt that production is stimulated and much improvement manifested in this line thru these exhibitions.

The management feels that the Western Slope Fair was a success in every way and that the results of the efforts put forth toward an improvement along agricultural lines will be far-reaching.—H. A. Lindgren, Agriculturist Uncompahgre Project.

War Spirit Prevailed at Wyoming State Fair

(Continued from Page 4)

of fat stock than for several years, only one or two herds from outside the state being shown. The Hereford Corporation of Cheyenne had a fine herd and took most of the prizes. As the herdsman remarked, "We didn't let anything get away that we went after." Davis and Thomas of Laramie also showed a herd of Herefords and took their share of prizes. Hauf and Son of Glendo showed a good foundation herd of shorthorns.

The sheep exhibit was not up to that of some former years. King Brothers did not have their show flock at the fair, but had several car loads of range sheep which were sold at good prices. The Corriedale Ranch showed some of their Corriedales and a number of sheep from outside the state were shown. The wool display was good and a new feature was added in the educational wool exhibit shown by the University. Dr. J. I. Hardy of the university wood department has prepared this exhibit for the benefit of the sheepmen of the state. It contains samples of all the different grades of wool from the various breeds of sheep and a large number of fabrics made from wool.. The exhibit also contains charts showing the development of the Corriedale. Dr. Hardy was asked to take the exhibit to the western fair at North Yakima, Washington.

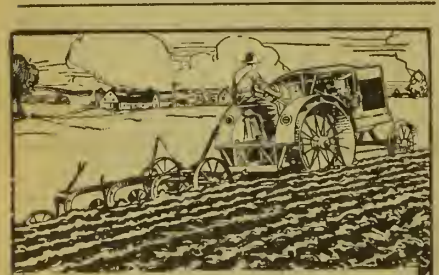
The poultry exhibit was very small. Not as many nor as fine birds were shown as were on exhibition at the Bighorn county fair. This fact is to be deplored, as poultry work is becoming important in Wyoming. Two or three counties have strong poultry associations and a better showing should have been made.

N. A. Luce, the government poultry expert for Wyoming and Idaho, was present with an interesting display of model poultry houses, yards, trapnests, etc., and gave many valuable suggestions for the development of poultry work. Mr. Luce has been working with the county agents in the state for the last six months and will be available for institute work during the winter.

Farm Machinery

Machinery and industrial displays were not numerous at the fair this year. There was a good mineral and oil exhibit, a farm lighting system and some exhibits of farm machinery, but all the lines were very limited. Farm machinery exhibits have never been a strong feature of the Wyoming fair but are developing along with other lines. There seems to be a tendency toward the use of the smaller tractor on the farm and the portable systems of electricity as labor savers. The need of labor saving machinery on the farm is more and more keenly felt as man labor becomes more scarce and more difficult to obtain.

The "Win the War" campaign has a strong hold on the people of Wyoming and this idea was emphasized thruout the fair. It is very gratifying to note the change that is gradually taking place in the manner of conducting the fair. The old wild west idea is rapidly losing its popularity and people are taking more kindly to the educational form of a fair.



Plow an Acre an Hour—on Kerosene

HUNDREDS are doing it and more with the "Allwork"—the light tractor that's different. Burns kerosene perfectly—has the largest 4 cylinder motor on any 3 plow tractor—mounted crosswise on the frame. Direct spur gear drive, no intermediate; belt pulley on direct drive from crank shaft extension. Four wheels; turns in a 12 foot radius. The

Allwork KEROSENE TRACTOR

is proving one of the biggest successes in light tractors. Its low upkeep cost, all around usefulness, ease of handling, great store of power make it the popular tractor everywhere. Built with the construction that insures years of good service—backed by an organization that can give you quick, dependable service. Satisfied owners everywhere. Write today for special folder.

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Write for Price List
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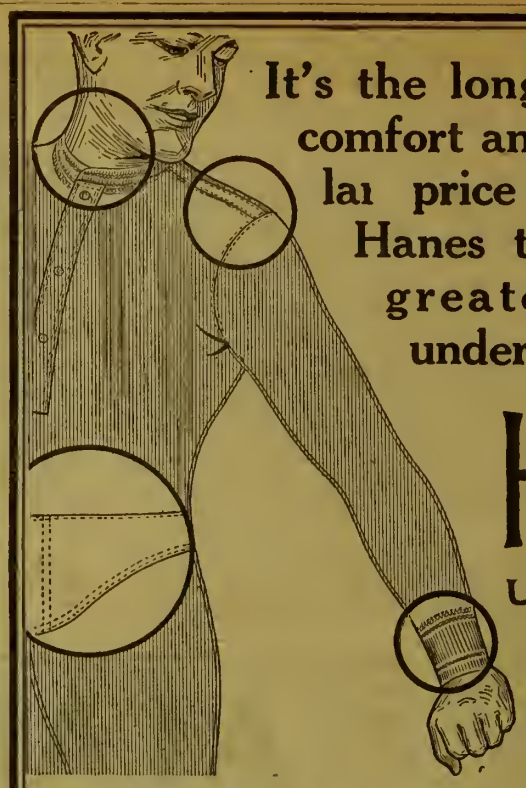

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UNDERWEAR

GUARANTEE
We guarantee Hanes Underwear absolutely—every thread, stitch and button. We guarantee to return your money or give you a new garment if any seam breaks.

HANES quality, workmanship and comfort-fit in Heavy Winter Weight Shirts and Drawers and in Union Suits give unusual underwear value at a popular price! Read these wear and comfort features closely:

Guaranteed unbreakable seams; tailored collarette that snugs up to the neck, preventing gaps; shape-holding elastic shoulders that "give and take"; pearl buttons sewed on to stay! ***Every desirable feature!***

Illustrated above are Hanes Heavy Winter Weight Shirts and Drawers, the Nation's standard at popular prices. Note the snug-fitting, three-button, staunch sateen waistband. Hanes Union Suits are also unusual in value, fit and comfort. *The closed crotch stays closed.*

Hanes for the boys! Hanes Winter Weight Union Suits for boys are the very limit of value—material, workmanship, warmth! They are the men's suits in boys' sizes. *Such value has never before been put into a boy's union suit!* You'll realize that as quick as you see one!

If your dealer does not have Hanes, write us at once.

This label on every garment HANES Buy none without it

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Save $4.00 to $6.00 Per Ton on Alfalfa

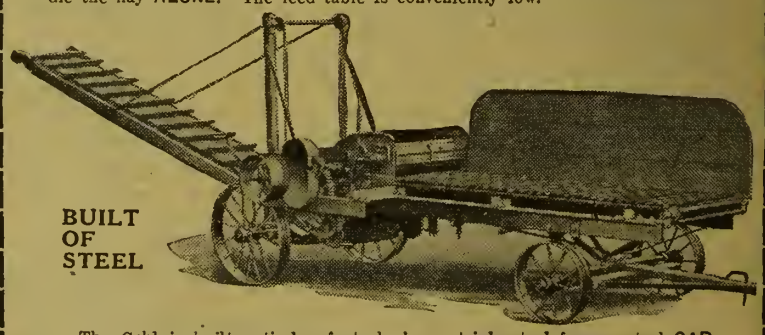
Feeding alfalfa hay to your stock means a loss of 10% to 30% because of unavoidable waste. By cutting alfalfa into MEAL, or CHOP, you produce a feed fully equal to bran, which can be fed to your cows, horses, hogs, sheep and poultry without waste.

Alfalfa CHOP means a gain of $4.00 to $6.00 per ton if sold or if fed to your stock, instead of alfalfa hay. The CHOP requires less than half the storage space and it can be cut for less than the cost of baling. Your alfalfa problem is solved by

THE GEHL ALFALFA CUTTER

The Gehl cutter makes a CHOP of even lengths out of the alfalfa leaves and stems. It does not shred, grind or crush the alfalfa into the undesirable condition of fibre and dust, which are considered objectionable by dairymen and feeders.

The Gehl cutter has a large capacity, due to the construction of the knife-head, cutting screen and big wide throat. The special construction of the feeder and the large oscillating compression rollers enable the machine to handle the hay ALONE. The feed table is conveniently low.



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The Gehl is built entirely of steel—heavy triple steel frame—steel CARRIER OR BLOWER—double bearings on all gears; these spell DURABILITY and DEPENDABILITY.

Equipment is furnished as required—BLOWER OR CARRIER, attachment for mixing with molasses and other feeds and feeding platform. At a small cost we will furnish an attachment which will make YOUR Gehl or Silberzahn ensilage cutter an alfalfa cutter.

WRITE FOR ILLUSTRATED CIRCULAR and sample of CHOP—or let us know about your requirements. Complete plans will be furnished, without obligation, at your request.

GEHL BROS. MFG. CO.
Dept. 254 West Bend, Wis.

Good Fair Held In Adams County

NEW START AFTER A LAPSE OF YEARS

ADAMS COUNTY held its first county fair in years this fall. For a starter it was a success. The agricultural exhibits were fairly representative of both the irrigation and dry farming districts, but in number they were not what a large county like Adams can put up when the fair idea is once thoroly appreciated by the farmers. There was only a small beginning in livestock. The exhibit of farm machinery, including trucks and tractors, was good and created a great deal of comment as machinery always does these days of high labor costs. There was a fine track program, including races and vaudeville features. The attendance was all that could have been expected under the prevailing conditions. September rains so seriously interfered with threshing and other harvest operations that comparatively few farmers could take the time to bring exhibits to Brighton.

Two of the Adams county Granges were represented in agricultural hall with splendid community displays. Central Valley Grange (Bennett district) made a fine display of dry farming products which included Turkey Red wheat, white oats, dent and flint corn of various kinds, potatoes, alfalfa, emmer, cane and all sorts of garden products. No irrigation had been given any of these crops and yet they compared favorably and were equal in quality to anything shown from the irrigated districts.

The corn and potatoes were especially noteworthy and attracted much attention from farmers. There was in this exhibit a sheaf of Japanese buckwheat. This is a grain that does well under semi-arid conditions and yet it is very infrequently found on our dry lands.

The other community exhibit made by the Grange was from Henderson, and included practically everything found in any section of Colorado, the important field products being wheat, oats, barley, emmer, flax, corn and sugar beets. There were also fruits, including apples and plums, and all sorts of vegetables from the gardens. There was an especially good showing of Everbearing strawberries in the Henderson exhibit.

The two Granges, in addition to winning a lot of individual prizes, also took community premiums that will add a neat sum to the Grange building funds.

In the general exhibits there seemed to be a great deal of interest in soy beans and peanuts, two excellent forage crops which are generally believed to be of a type not suitable to our conditions. However, these exhibits indicated that, in a favorable season, we can grow both in Eastern Colorado. The soy beans were grown on dry land and they were very well matured when cut for exhibition purposes. The peanuts were both of the Spanish and the Jumbo variety, and while well podded, the pods had not filled out fully when dug. The top growth on the peanuts was bushy and thick, indicating that they can be produced for forage under irrigation, at altitudes of 4,500 to 5,000 feet.

There were a number of exhibits of the grain sorghums, including milo and feterita, and also a good showing of Sudan grass, which is becoming an important hay crop on the dry lands of Adams county.

Brighton is the shipping point for many carloads of cabbage, celery and other truck crops and naturally these were very well represented in the exhibits. No finer celery is grown anywhere than in the Brighton district, and that which was on exhibition was of the 100 per cent kind.

There were 23 ten-ear corn exhibits, some of it Swadley's yellow dent, some Minnesota No. 13, and other standard varieties that do well in Adams county. The sugar beet exhibit was fine as to quality and shape of beet, indicating that the beet growers of the Brighton district know the game. There are 10,000 acres in beets in this district and the new factory there is now making sugar for the first time.

An interesting feature in agricultural hall was the exhibit of sample pans of graded wheat. These were brot right from the mill and they showed U. S. grades as an object lesson to farmers. For instance, some No. 1 hard winter wheat was shown that tested 60 pounds and contained no dockage. Then there was soft winter wheat testing 6.7 pounds with ½ per cent dockage. There was a sample of No. 2 soft winter wheat testing 57.8 pounds with 1½ per cent dockage, ½ per cent of smut. These pans of wheat attracted attention for their educational value, showing wheat growers just about how Uncle Sam's regulations affect the cereals when he brings them to the mill.

In line with the campaign for the use of better seed, seed treatment demonstrations were given every day during the fair, the outfit including a fanning mill and barrels. The formaydehyde solution was mixed and the actual treating accomplished before the eyes of the farmers. One of the placards in the tent where this demonstration was given contained this statement:

"If Colorado farmers had controlled cereal smuts and used cleaned and tested seeds in 1917, the state could have furnished an additional 1,160,000 bushels of grain to the Allies."

Other placards gave the United States standards of germination and purity. By this and other educational exhibits, arranged under the supervision of County Agent George R. Smith, the agricultural division of the fair was made profitable as well as interesting to the farmers.

Much credit is due the women who took part in the section devoted to needle work, art work of various kinds and to food preservation and conservation. The canning exhibits were especially complimented by competent judges who saw this exhibit. There is a great surplus of fruits and vegetables in the irrigated sections of Adams county each year, but 1918 will find more of this saved for future use than ever before. To the women and girls belongs the credit for thus aiding the nation's food-saving campaign.

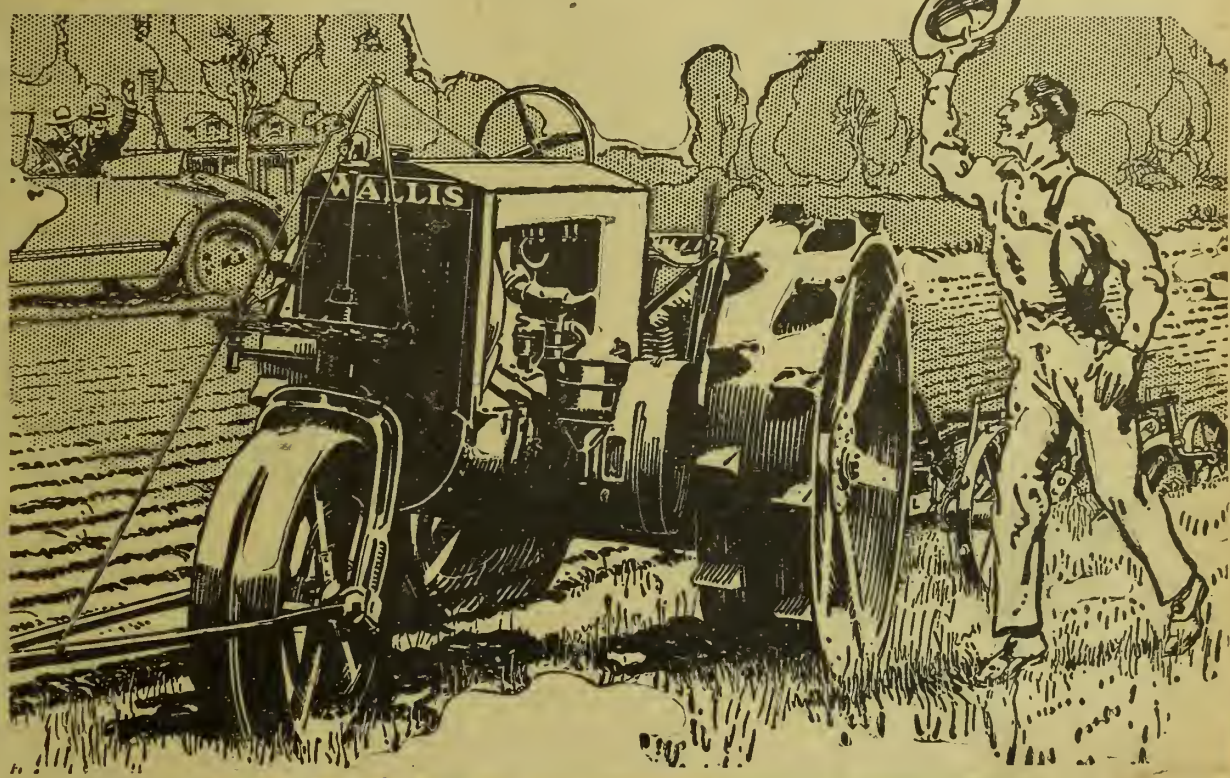
While no field demonstrations had been especially arranged for tractors, a number of the machines gave impromptu tests of what they could do in the way of plowing. The plowing was eagerly followed by farmers who show an absorbing interest in everything that pertains to farming by machinery. The Fordson tractor, made by Henry Ford, was on the ground and did a little job of plowing, the first that the writer of this article had seen by a tractor of this make. The machine pulled two plows and did its work efficiently and speedily. The Fordson gets over the ground in a rapid fashion.

As stated at the outset, this is only a beginning for Adams county, and it was a good beginning, everything considered. Crop work kept many away and interfered somewhat with the superintendency of several departments, but these things have to be overlooked during war times. It will be safe to assert that the 919 county fair at Brighton will be among the state's best, if the farmers appreciate the efforts of the few faithful ones who participated this year in putting the fair back on its feet.—A. T. S.

Oil From Sunflowers

Serious modification of Germany's ambition to secure a "place in the sun" is evident from government efforts to solve the diminishing food and feed supply. So short has become the supply of fats and oil that large plantings of sunflowers are urged as a source of edible oil. Last year the German government offered premiums for the cultivation of sunflowers and railroad right-of-ways there are extensively used for the purpose. This is in keeping with Germany's policy of utilizing all her resources to the utmost. According to information received by the U. S. Food Administration, as much as 18 gallons of oil can be secured from the seeds of an acre of sunflowers while the refuse is said to make a cattle feed comparing favorably in quality with other feeds now available in Germany.

War service serves the server.



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WALLIS is today conceded to be America's Foremost Tractor because it does the most work and lasts the longest.

Wallis was the first to successfully combine great power, light weight and durability. The result is long wanted economy. Due to its advanced type of simplified construction the Wallis weighs from 1,000 lbs. to 5,000 lbs. less than tractors designed to do the same work. The power released is delivered at the draw bar.

The Wallis has completely enclosed gears, operating in oil. This includes the rear axle drive. All gears are drop forged, cut and hardened steel. Vital points operate on Hyatt bearings. Throughout this advanced type tractor every part is as carefully designed and finished as a modern motor car. As a result the Wallis does from 30% to 50% more plowing per gallon of fuel.

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WALLIS TRACTOR COMPANY RACINE, WIS., U.S.A.

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Marketing Pinto Beans

Stones, dirt and splits mixed with pinto beans are seriously objected to. They cheapen the product and limit the market. Pintos cannot be sold again in our eastern markets if they contain stones and dirt. The future success of the pinto bean industry depends entirely upon the growers and shippers being able to put out a high class product.

The shippers of pinto beans are doing their very best to prevent the marketing of beans containing stones, dirt and other foreign matter. Many have profited by last year's costly experience and are installing better machinery for handling beans. But they alone, even with the best of machinery, cannot make a first-class product of beans delivered by the grower in very bad condition. It is highly important that the growers co-operate with the shippers and prevent dirt and stones from getting into their beans. This can be accomplished in a great measure by using the proper harvesting machinery.

Beans should be harvested with regular bean harvesters properly adjusted and not with a cultivator, mower or other poorly improvised machinery. Beans should be bunched by hand and not with a side delivery rake or common hay rake. When loading beans that contain stones, a light shake with the fork when lifting the bunch up will eliminate many stones.

Last season one group of farmers shipped an entire car of pintos to Denver for recleaning which contained over 40 per cent of adobe stones and other foreign matter. Several loads of the beans were delivered by growers containing as high as 5 per cent of stones. Such practices are ruinous to the industry.

The grower can also save himself a great deal in dockage and increase the value of his crop by preventing excessive splits. Excessive splits cost the pinto bean industry at least $100,000 on last year's crop alone. A number of loads of beans were delivered by growers containing as high as 10 per cent of splits. One whole carload was shipped in for recleaning containing 18 per cent splits. This loss was to a large extent due to the threshing of beans with an ordinary grain thresher which cracks and splits too many beans.

Wherever possible beans should be hulled with a regular bean huller. It is true that the split beans are good food but the consumers, especially in the eastern markets, will not buy beans as readily and pay as much for them if they contain excessive splits.

Rocky Mountain bean jobbers choice recleaned grade requires that the beans contain not more than one-half of one per cent dirt, stones and other foreign matter; one and one-half per cent of split beans; six per cent of weather-damaged beans. This is the official grade by which pintos are bought and sold. It is highly essential that growers and shippers fully understand the market requirements and then work together to attain a high standard which will assure a permanent and satisfactory market for the pinto bean.—O. H. LIEBERS, U. S. Food Administration.

Growers Should Organize

The Colorado Office of Markets has issued a statement to the bean growers of the state in which the results of the 1917 crop season are summarized and attention is called to the necessity for close organization of the growers, in order to correct conditions that are interfering with marketing. Following are extracts from the statement which bears the signature of Stuart L. Sweet, Field Agent in Marketing for Colorado:

Colorado ranked third among the bean-producing states.

Total number of pounds marketed, 112,000,000.

Total number of pounds purchased in Colorado by the United States Food Administration, 46,000,000.

Total number of cars shipped, 765.

Total number of cars rejected at destination because of stones, splits and dirt, 91.

Denver rejections show 128 cars, or 17 per cent, due to careless handling of beans by growers. Some examples: 1 car had 18 per cent splits; 12 cars had 4 per cent of stones. This loss cost Colorado growers $176,000.

* * *

Some of the 1918 crop will be purchased for the army and navy. There is a feeling among bean growers of Colorado that the government is discriminating against the Pinto bean this year because the Food Administration will not buy the crop as was done last year. There will be no discrimination, as the government is planning to purchase some of our crop. All purchases by the U. S. Food Administration for the army and navy requirements, as well as those of our allies, will be pro-rated among the bean-producing states on the basis of their production, and as Colorado stands third on the list, she will receive a goodly share. The price will not be set by the government. All purchases will be made on the open market.

What has been done in organization: Local organizations, which may be eventually centralized into a State Co-operative Marketing Association for Beans, have been perfected among the bean growers in the seven following sections: Fort Morgan, Greeley, Pueblo, Fowler, and three in Adams county.

WHAT IS TO BE DONE?

Recommendations of the Colorado Office of Markets:

The Colorado Office of Markets, representing the U. S. Bureau of Markets, and the Colorado Agricultural College, furnishes information to all interested in the bean industry by mailing free of charge semi-weeky bean bulletins stating the condition of the market, number of cars loading, moving and sold, demand and supply and price range on all important bean markets. In order to assist the grower in marketing his bean crop to the best advantage we draw your attention to a few suggestions which may prove of value:

1. On gravelly soil, care will prevent picking up stones with the vines and will increase the value of the beans.
2. A very small percentage of splits will be found in the cleaned beans if the thresher is carefully adjusted.
3. A man who is posted on market requirements and quotations will know where he can best market his beans. He can obtain this information from the bean bulletins, furnished on request by the U. S. Bureau of Markets through the Colorado Office of Markets, Denver.
4. A bean grower will be benefitted by membership in the Colorado Bean Growers' Association on account of the valuable information and assistance which this association can give. Professor Alvin Kezer is secretary of the Colorado Bean Growers' Association, with headquarters at the Colorado Agricultural College, Fort Collins, Colorado.
5. A state organization for marketing the 1918 crop, we believe, will prove its value in dollars and cents to the individual growers and make this new industry of great importance to the state. Have you considered the advisability of organizing a local association in your district?

For further information address

STUART L. SWEET,
Field Agent in Marketing,
26 Custom House,
Denver, Colorado.

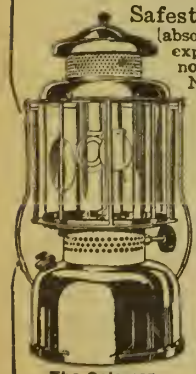
Rationing of cheese in Switzerland has been in force since June 1. The allowance is one-half pound per person monthly.

Measure your wheat savings by the Golden Rule.

The Perfect Home Light
Lights With Common Matches

NO need, now, to bother with old style oil lamps that smoke and flicker and are positively dangerous. Here's the **perfect home** light, that makes and burns its own gas from common gasoline and **lights with common matches.**

The Coleman
Quick-Lite



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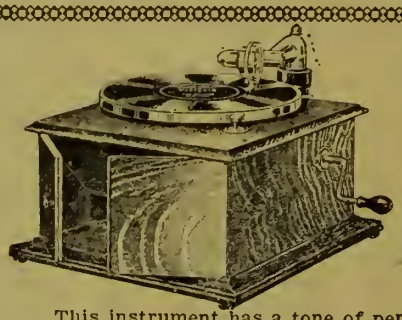

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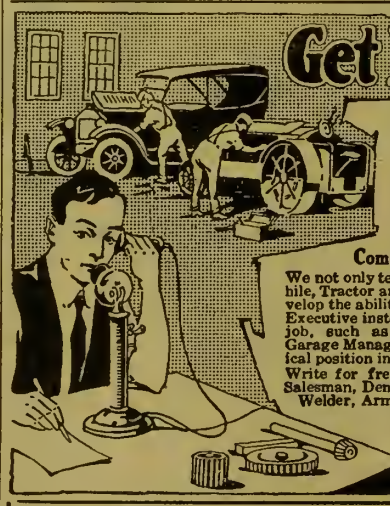

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Hoover Outlines Food Program

FARMERS' PART IN WINNING THE WAR

HERBERT C. HOOVER
UNITED STATES FOOD ADMINISTRATOR

THERE is no prospect of a proper ending of the war before the campaign of the summer of 1919. To attain victory we must place in France three and a half million fighting men with the greatest mechanical equipment that has ever been given to any army. While we expect the position on the western front may be improved, from a military point of view, between now and then, there can be no hope of a consummation of the end that we must secure until another year has gone by.

If we are to accomplish this end in 1919 we will save a million American lives that will be expended if we have to continue until 1920. To give this final blow in 1919 we have not only to find the men, shipping and equipment for this gigantic army, but this army, the Allied armies and the Allied civil population must have ample food in the meantime if we are to maintain their strength. We can do all these things and I believe we can bring this dreadful business to an end if every man, woman and child in the United States tests every action every day and hour by the one touchstone—does this or that contribute to winning the war?

The food program is no small part of this issue. To provide ships for our army, we have not only to build all that we can but we must have the help of Allied shipping. In order that the Allies may provide this, they must take food ships from the more distant markets and place them upon the shorter run to the United States. We must decrease our imports of sugar, coffee and tropical fruits.

Under these conditions, the demand upon us is for larger supplies. The conferences of food supply and shipping we have held in Europe enable us to estimate our burden. Compared with previous years, the Allied civilians and armies, our own armies, the Belgian Relief and certain neutrals who are dependent on us require the amounts from us shown in the accompanying table.

Even this program means further self-denial by the Allies next year. They are making this sacrifice in the common cause. We must maintain the health and strength of every human being among them or they will be unable to put their full strength alongside our own in the supreme effort. At the President's direction, I have assured them that "in this common cause, we eat at a common table," and upon entering these conferences in Europe we promised them that whatever their war-food program called for from us we should fulfill.

If we survey our ability to meet this definite promise to them we find that while our wheat production this year is better than last year, our production of other cereals is less. We have had severe losses thru drouth in many sections. On balance our resources are no greater than last year. We find, however, that we can give this increase in food supplies, of 5,730,000 tons over last year, and still have have a margin over the amount necessary to maintain our own health and strength.

At best the Allied table will be less than ours, for the Allied peoples are denying themselves more in order to transport our soldiers. We can do no less than fill the ships they send us.

Of our imports, we shall apparently have sufficient sugar to maintain the present consumption and take care of the extra drain of the Allies from our markets, instead of compelling them to send their ships to the Far East. We can secure in sailing vessels the coffee we need, if no one makes an overbrew. Of our own products we must secure a reduction in consumption and waste in the two great groups of, first, breadstuffs; and second, meats and fats; that is, in all bread and cereals, beef, pork, poultry, dairy and vegetable-oil products. The average consumption of our people of breadstuffs amounts to about six pounds per week and of meats and fats to four pounds a week for each person. A reduction in consumption of less than one-half pound per week per person in each of these two great groups of foods would accomplish our purpose. We wish to emphasize, however, that we do not want curtailment in the use of milk for children.

Some of our homes by reason of limited income cannot now provide more food than they should have to maintain health in the family. They cannot rightfully be asked to make the suggested reduction in consumption. But the great majority of our homes can do more than suggested.

We need even greater simplicity of living than last year amongst all that section of the community to whom foodstuffs are a secondary item in expenditure.

We estimate that nearly 9,000,000 people eat at our public eating places —hotels, restaurants, boarding houses, clubs, dining cars and so forth. The food consumption in these places is larger than in the average homes. We are asking the proprietors and employees of these institutions to undertake in many particulars a more strict program than last year, and we are confident that they will willingly do this.

This is not rationing—a thing we will never have if our people continue to support us as in the past. We are simply making an appeal to the intelligence in the homes and public eating places of America to work out for themselves the means and manner of saving.

This year, as last, I believe we can accomplish the necessary ends by voluntary action of our own people. The willingness to assume individual responsibility in this matter by the vast majority is one of the greatest proofs of the character and idealism of our people, and I feel it can be constantly relied upon. Our simple formula for this year is to further reduce consumption and waste of all food. We have so arranged the International Food program that, except for a moderate substitution of other cereals in bread, it will not, we hope, be necessary to substitute one foodstuff for another, nor to resort to wheatless and meatless days. What we need is to reduce directly our consumption of all foodstuffs, laying especial emphasis on the staples. The Allies are in need of all the surplus of the great staples that we can provide. It is necessary that every family in the United States study its food budget and food ways, to see if it cannot buy less, serve less, return nothing to the kitchen and practice the gospel of the clean plate.

	Average 3-year Pre-war Shipments Tons	Shipped Year Ending July 1, 1918 Tons	Must Ship Year Ending July 1, 1919 Tons	Increase This This Year Over Last Year Tons
Meats and Fats, (Beef, Pork, Dairy, Poultry and Vegetable Oil Products)	645,000	1,550,000	2,600,000	1,050,000
Bread Stuffs (Wheat and substitutes in terms of grain)	3,320,000	6,800,000	10,400,000	3,600,000
Sugar (From United States and West Indies)	618,000	1,520,000	1,850,000	330,000
Feed Grains (Mostly Army Oats)	950,000	1,950,000	2,700,000	750,000
Totals	5,533,000	11,820,000	17,550,000	5,730,000

The New Zealand government has made arrangements to take over the entire wheat crop of that country at $1.41 per bushel. The present outlook is for an average yield.

The training we seem to need most for our troops in France is sprinting—so they may be able to catch the fleeing Huns.

Pays for Itself by the Work It Does

Owners who make full use of its power possibilities, regard Lalley-Light as a paying investment.

It actually does pay its way because it saves much farm labor by furnishing power to do the work.

It is on duty, and ready for work—morning, noon and night—365 days in the year. By government statistics, it is the one farm labor-saving device that is useful through the entire year.

Lalley-Light power churns butter and separates cream. It pumps water all over the house and to the barn. It runs a washing machine and a vacuum cleaner.

Its Sure, safe light saves time in the barn mornings and evenings—in addition to wiping out the oil-lantern danger entirely.

Lally-Light is a real farm helper in these ways no less than through the comforts and conveniences it brings.

It is easy to see that it soon begins to pay for itself; and finally returns a real dollars-and-cents profit.

The farm labor situation promises to be more acute next year than it was in the busy season just passed.

Lalley-Light's aid is well-nigh as important as the tractor's aid.

See the nearest Lalley-Light merchant. He can show you, in figures, how Lalley-Light will pay for itself in a short time.

Write us, if you do not know his name, and we will send it, with Lalley-Light literature.

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ELIAS M. AMMONS.....President
W. S. EDMISTON.....General Manager
ALVIN T. STEINEL..Managing Editor

DEPARTMENT EDITORS

E. R. PARSONS.....Dry Farming
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What an Expert Thinks of Us

It has always been the custom for newspapers and magazines to furnish each other free copies, on an exchange basis, the object being thus to keep in touch with the trend of thought. This exchange arrangement has been discontinued at the request of the government for the purpose of conserving the supply of print paper. On the exchange list of Western Farm Life have been some of the nation's noted agricultural experts who in this way have kept themselves informed regarding the development of agriculture in the irrigated and dry land regions of the West. One of these men is Prof. H. M. Cottrell, director of the Bureau of Farm Development of Memphis, Tenn., who has inspired more men to better farming by his forceful and practical way of presenting the dollars and cents side of farming than perhaps any other man living. We wrote him regarding the ruling on exchange subscriptions and asked him whether we should discontinue sending the paper. His reply, inclosing a dollar for two years, was as follows:

"I inclose $1 subscription for Western Farm Life. I hate to part with a perfectly good dollar, but as the paper is worth five times that amount it is a good investment."

Prof. Cottrell was one of the first scientifically trained agriculturists to go out into farming communities with a direct message of help and practical encouragement. He preached the doctrine of drouth resistant crops in Kansas a quarter of a century ago. Having been born and raised on a Kansas farm, and trained in the agricultural sciences at Kansas State Agricultural college, afterward becoming head of the farming department in that big school, he spoke "as one having authority." Later he was active in commercial farming enterprises on a large scale in the middle west and then in New York state. Returning to extension work he was for a time with the Colorado Agricultural college and then served as agricultural commissioner for the Rock Island lines, spending more than five years on a private car, (which was his only home), traveling many thousands of miles each year, lecturing, organizing and advising farmers from the Great Lakes to the Rockies, and from Minnesota to the Gulf of Mexico; in the corn belt, the wheat belt, the rice districts and the cotton states. He is one of the best posted men in America regarding the commercial phases of farming and has a larger grasp of the practical side of agriculture and a deeper knowledge of fundamental farm economics than any man with whose work we are familiar.

When a man of that caliber tells us that Western Farm Life is worth five times what he is willing to pay for it, merely as a means of keeping his own active mind up to date regarding development of farming in a region with which he has now no direct connection, we feel that it ought to be worth as much or more to the farmers who are trying to make money in this territory.

In intimate association with Prof. Cottrell for a period of about five years this fact has been indelibly impressed upon the writer's mind: No man can farm well, live happily on the farm, bring up a contented and cultured family,or build a permanent farm home for himself and his offspring unless he prospers in the doing of it. His aim is to teach the farmer how to prosper. This is an excellent aim for any agricultural missionary and any agricultural magazine. This thought embodies the purpose of Western Farm Life. We use the dollar we get from you as a reader to carry out our aim to make you more dollars, so that your farming shall progress and prosper. Dollars never buy happiness and contentment, but it is the rarely exceptional individual who can enjoy the last without the first.

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Attacking Rural Credits Law

We have repeatedly called attention to the efforts that are being made to discredit the Federal Farm Loan system. This propaganda now bobs up in a new form, showing itself under the cloak of patriotism—the convenient mantle used by profiteers and business pirates to cover their own iniquities. The latest thing in this line is a smoothly phrased statement by Mr. E. D. Chassell, Secretary of the Farm Mortgage Bankers' Association of America, urging that Federal Farm Loan bonds be made taxable because they afford a means of tax dodging to the wealthy investor.

It is not necessary here to go into the argument offered by Mr. Chassell in support of his assertion, but simply to cite that his motive is not one of patriotism or aid to the nation but of selfish gain to the mortgage brokers whom he represents. The Federal Farm Loan system, which will survive the attacks of the loan sharks, has been of vast benefit to the nation in assisting farm borrowers to increase production of food crops. The funds for lending are derived from the sale of bonds approved by the United States Treasury, and as an inducement for their sale they are non-taxable. This brings out the money and instead of passing thru the hands of brokers who would get their rake-off in commissions, the loan is made directly to the farmer thru the machinery established under authority of the Federal Farm Loan act. This is the point that is making the mortgage brokers squeal and not any fancied loss of revenue to the government due to the non-taxable feature of these bonds.

If the mortgage brokers could make these bonds undesirable as an investment—and they are attempting by every underhanded means at their command to do so—it would interfere with the national agricultural program and eliminate the Federal Land Banks as a competitive factor in farm loans. They are willing, apparently, if Mr. Chassell is truly their spokesman, to help the enemy because their profits have been cut down by the farm loan system.

The farmers of America are seeing things in a clearer light than before and the farm papers, as a rule, are not falling for the kind of bait that Mr. Chassell seeks to have them swallow thru the wide distribution of his subtly phrased appeals in the name of patriotism and love of country. These money brokers may love their country a little, but they love usurious interest more, and they love the farmer only when he borrows thru them.

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Capitalizing Patriotism

To capitalize patriotism is to prostitute the highest form of unselfish human sentiment. A patriot gives all he has to save his nation. "Greater love than this hath no man."

To make this sentiment the basis of trade or business marks the offender as one who, like Jacob, would barter his birthright for a mess of pottage. Yet it is being done every day.

The desk of every editor is flooded with appeals for private gain in the name of patriotism. It is no unusual thing to be told that war securities are being purchased because of business prestige thereby gained. Some people openly brag about their financial support of the war that men may think them patriotic and reward them with their custom.

We have not yet heard of a man offering his life to the nation that the business he was leaving might thereby prosper. Then why buy Liberty bonds, or Thrift stamps, or give to the Red Cross from any lesser motive?

There was a man on earth two thousand years ago who went into a temple to worship. The incense that filled the air was not of myrrh, but of the barnyard; the music was not of choirs but of clinking coins. The sellers of sacrificial animals were there, and the money changers. The man who was known as the Gentle Nazarene seized a scourge and applied it to the backs of the scoundrels because he knew their souls were dead to the scorn of his sermons and only the cuticle would respond to the lash.

The war in Europe is won, but it has not been done with the help of dollars grudingly given or invested from motives of future gain. These have merely added to the pile but reflected no credit upon those who furnished them. If this nation is to continue to lead the thought of the world toward universal brotherhood there must be fought at home another war that will purify the springs of our citizenship. Men must learn to live for service and not for gain, if civilization is to be saved more such eruptions as that we are now witnessing.

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Peace Thru Victory

The Stars and Stripes, the official newspaper published by the soldiers of the American Expeditionary Forces in France, says editorially about the enemy peace offensive:

"Let the weak hearted who are dreaming of a compromise; let the pacifists who are talking a peace by agreement; let the sideliners who have had enough of war; let the secretly inclined pro-Germans who think this war should end without a decision—let them one and all know once and for all that for the American Expeditionary Force there is no such word as 'Peace' with the Huns unbeaten. The man who talks of peace today, except through victory, is a traitor."

The enemy peace offensive is likened to the action of German machine-gun crews in the Vesle fighting, when they fought and killed Americans until they were surrounded, then shouted "Kamerad."

The mothers of the American soldiers in France want the same peace their sons demand. All the courage of the ancient Spartan mother is in the hearts of the women of America.

The object of the Fourth Liberty Loan is to bring that peace—a just peace, a righteous peace, an American peace.

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The Agricultural College at Fort Collins, because of the student army drilling corps has had to double the size of the barracks provided last summer for the drafted men sent to the institution for technical instruction. The institution has, during the past summer, expended nearly $100,000 in buildings to support the war.

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Registration at the Agricultural College at Ft. Collins the first week of school this year was 100 greater than for the same period last year. Of the 600 registered this fall about 200 were girls. These figures do not include students in the School of Agriculture, nor the 300 draft men sent by the government for training.

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The wild plum is a valuable fruit in Colorado. Its best varieties should be propagated and protected from insects, in order that a large output may be marketed each year. This fruit can be most profitably grown along banks of streams and other places that do not interfere with other crops, and with proper care it should add materially to the crop production of many of our farms.

Waste reclaimed is ground regained.

The Branding Iron

Applied by Elias M. Ammons

The town of Kremmling offered a $50.00 cash prize for the best exhibit of food products at the Grand county fair held the last of September. Mrs. Alfred Carlson made an exhibit of 71 articles of food and won the prize. This was probably the best exhibit made at this fair and one of the best ever made by a single individual in the state. * * *

As usual, the Colorado and New Mexico fair at Durango this year was a great success. The fruit was not as good as usual but the farm products were excellent. The best exhibit in the show was that maed by the Southwestern Ute Indians of Ignacio. I naddition to the customary fine exhibit of the Indian School at the Agency, there was this year a most creditable showing made by the adult Indian women in the manufacture of clothing. Another feature was that of the "Boys' Pig Clubs" which had exhibits of Duroc hogs that reflected great credit upon the boys. The splendid results accomplished by these clubs under the direction of County gent E. D. Smith attracted much attention and will do much towards the advancement of swine production in the San Juan Basin. The parade given on Wednesday was very creditable indeed. In fact, it would have been a good showing in the capital city. The livestock exhibit as a whole was limited in numbers but there were shown some splendid shorthorns from Mancos. The spirit of Northwestern New Mexico and Southwestern Colorado in support of this fair has accomplished much towards the development of the great area of agricultural lands in this section of the West.

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The Fort Lewis School of Agriculture closed its summer session on September 25th, graduating three boys: Erwin Parker from Greeley, Arthur Eastman from Gunnison and Glenn Snyder from Fort Lewis. All of these young men made good records as students in the school and expect to take college courses. The result of experimental farming and garden plots at the Fort Lewis School of Agriculture the present season are a splendid illustration of the difference in climate found at the same altitude in the various portions of the state. Fort Lewis is at an altitude of 7,600 feet, and yet the writer saw this fall a tremendous crop of very fine quality of tomatoes; and melons and squash were ripened. The garden plots were exceptionally good and all ordinary garden crops were grown with great success. In many portions of the state no such results could have been obtained at such an altitude. A similar interesting incident is that of the Buchanan orchard in the Animas valley above Durango. This orchard is 6,800 feet in altitude and for fifteen years there has not been a failure in the crop. Sweet cherries, grapes, pears, peaches, apricots and apples are all grown with success. It seems remarkable that there was a fair crop in this orchard this year, whereas most fruits were killed by frost at Farmington much farther down the valley and at a much lower altitude.

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There is no deferred classification in food conservation. We are all in Class 1, all in camp, and ready to go "over the top" when we must further conserve.

Announcement

On account of lack of space it has been necessary to defer publication of the first article of the series on Weed Eradication until the issue of November 1st. This series, prepared by Prof. W. W. Robbins, who has charge of the Colorado State Seed Laboratory, should be carefully read and studied by all farmers in the states of Colorado, New Mexico, Wyoming, Utah and Idaho. The Information will be of a practical nature and the advice on weed extermination, if followed, will save the farmers thousands of dollars and increase food production for the nation in just that proportion.

Comment by Farmer Putnam

OUR MISSOURI FRIEND ATTENDS THE STATE FAIR AND GIVES "A LITTLE ENCOURAGEMENT"

NOT long ago the editor sez to me, sez he: "Putnam, I want you to go down to Pueblo and give the State Fair a good write up. They need a little encouragement. The management is tryin' to build up a good agricultural fair and we ought to get behind it and push."

Well, I went down and I looked thru everything on the place and I agree with the editor; they need a little encouragement. They got a big fair; lots of things to see, more than your money's worth, but it kind-a needs to be straightened out. Everything is in a jumble. The grounds is big and they got big buildin's, rows of 'em, but they're strung around in a kind of a new moon form without no order. The buildin's ain't such as a state like Colorado should ought to have fur a state fair. They look cheap and dilipated. That thar last word is one I picked up by over-hearin' a feller talk. I don't know what it means but it sounds good; the buildin's looks dilipated.

Some of them dilipated buildin's had fine stuff in 'em, but it's hard to make exhibits look nice in a ramshackle, dilipated buildin'. This warn't no fault of them Pueblo people; they been tryin' to hold a state fair fur years, without gittin' no backin' from the state or from Denver, but this year they had some tax money to go on to help pay premiums. In other years the business people of Pueblo had to dig down in their jeans and put up the money for the deefissit—whatever that is. That's what one of them fellers told me anyhow. Now if they has to have a deefissit at the state fair why I say the state ought to buy it and not make private people put up the money fur it, especially in these here war times when everything is so high, includin' deefissits.

I told this feller that I come down to give the fair a little encouragement and he sez: "Well Farmer Putnam we appreciate all you kin do fur us, but it ain't encouragement we need, it's gate receipts."

I reckon that's so. You cain't run a big fair on encouragement. Of course we cain't do much durin' this here war to improve the state fair and make it a go, but the Kaiser ain't long fur this world anymore; he's sinking rapidly and Doc. Pershing cables me that his pulse is growin' weaker and weaker. They been tryin' to keep him alive on Bulgarian butermilk, but that's sourin' in his stummick now. I been wonderin' where he expects to go to when he kicks the bucket. It would be a kind of a imposition on the devil to make him take the Kaiser and still I reckon be's got to go somewheres. Maybe the Denver Post'll take him in fur the circus or to run fur governor.

Let's talk about somethin' nice. After the war I hope the legislature will give the state fair plenty of money to put up some decent buildin's, improve the grounds and git men out over the state early in the season to talk exhibits and gather up some that'll represent this here big farmin' state. Some people still got the idea that Colorado is nuthin' but a minin' state or good only fur grass cattle. They don't seem to know that we're looked up to by them eastern farmin' experts. What do you-all reckon I come out here from Missouri fur? Missouri is one of the champeen corn, hog, mule and hell-raisin' states of the Union and I wouldn't a-left thar if I hadn't thot I was comin' to a better state. We kin put up as good a state fair in Colorado as they has in Sedalia, (Mo.), and we ought to have it if it costs $25,000 a year from the state legislature, because farmin' is our biggest industry and a state fair helps build it up.

I was glad to see the Agricultural college put up a good show. I seen Director French, who was boss of that part, and I sez:

"Hello Hiram, I got to hand you a compliment on the nice exhibit. It makes me want to go to college ag'in."

"Ag'in!" he sez. "You mean yet, don't you?"

Well I never took no degree when I went to college. They didn't give none in my almy matter. You just helped yourself from the alphabet, with twenty-six letters to choose from, and everything free. But I hain't afeard to argy with them scientific fellers. I seen Prof. Crosman, director of publications, etc., and I sez: "Young man, let's see if you know anythin' about farmin'. I have been havin' trouble to git my wheat to stoolin'. It just comes up spindlin' like and the plants don't seem to spread out. Do you reckon it's the soil or the seed?"

He looked awful serious thru his specks fur a minit and then he sez, sez he:

"It is a little difficult sir to answer a question like that off hand, because of the variableness of conditions in our wheat growing sections. But, speaking generally, I should advise that the ratio existing between the hydrogen present in our soils as nitrates and the available potassium present, together with the relative humidity and the evaporation, in connection with the density of the atmospheric pressure exerted by the micro organisms secreted in the soil particles in the process of root growth thru the gathering of nitrogen from the air and the subsequent transpiratory action of the growing plant, all combine to make the problem rather a complex one which, however, may be solved by a more careful preparation of the seedbed and greater attention to the selection of seed. Of course as to your particular soil and locality I could not say without giving the matter personal investigation, but if you will give me your name and address I shall be pleased to mail you a bulletin that fully covers the question."

"Thank you, Doctor," I sez. "I'll see Ammons when I git back to Denver and recommend you fur promotion to the scientific department of the college. You've said less and used more words then anything I've heard lately. You sound like a page from the Experiment Station Record."

Well I had a good time at the State fair and I hope to go back next year—if they let me in—and see if they are profitin' by my suggestions. I seen Governor Gunter on the way down. He stopped at Mr. Harvey's in the Springs, where he had supper and he furgot to git a receipt fur it. I bet the auditor will jump on him the first of the month. Our great state has got a niggardly way of makin' its travelin' employes show receipts fur everythin' they eat. They have to git the cashiers in restaurants and hotels to sign fur 'em to show that they're not robbin' the state! I think the feller that put that rule into effect ought to be in Germany where they hain't got no respect fur manhood. I got my opinion of a rule that goes on the theory that every man is a pickpocket and that don't allow him to eat a meal, or to pay out a street car fare without showin' a receipt. That rule is as small as the capacity of the brain that conceived it and whoever done it kin take these here words and swaller 'em.

THOMAS JEFFERSON PUTNAM.

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This Atlas, "American Crusaders," is the result of many months' work. It is a Portfolio and Manual of the World's Greatest War, containing President Wilson's Flag Day speech in which he so clearly answers the question, "Why are we at war?" and also extracts from his message to Congress in which our war aims are definitely set forth. These fourteen principles have been accepted by the Allied World as the only basis upon which a prmanent peace can come. These principles are destined to become almost as famous as our Declara- which a permanent peace can come. These principles arican home.

This new Atlas contains 32 pages, 10x15 inches and is printed in four colors on high-grade calendered paper. It contains 13 maps in colors, 3 topographical charts of battlefields, flags of all warring nations in colors, many large half-tone pictures showing war scenes, such as battlefields, firing lines, big guns, battleships, airplanes, etc. A full-page map of the United States shows the location of the 34 cantonments and all the Officers' Training Camps, Naval Bases, Forts, etc. It gives the Army and Navy rank and pay, and the insignia worn by all men in the service. This enables you to tell the branch of service and rank of each man by his uniform.

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Water Supply For Dwelling

I would like suggestions from you, and also from the readers of Western Farm Life, as to some way, not too expensive, to get the water to our house from a well that is about 500 feet away and eight feet lower. The well is 45 feet deep and 40 feet to the water in it.

Can a person make a concrete tank, underground, that will do for water under air pressure?—A. S. H., Ordway, Colo.

It is feasible to construct a concrete tank underground for the purpose of holding water under air pressure. A circular or barrel-shaped tank would undoubtedly best serve the purpose. Under a separate cover we are sending you several of the bulletins we issue concerning the uses of concrete. Bulletin No. 140 describes the proper proportioning, mixing and placing of concrete and a careful application of these instructions will result in a water-tight job. The amount of reinforcing steel required will depend upon the design of the tank, its capacity and the pressure it will be subjected to. This reinforcing may be wire mesh or steel bars and should be of such sizes and spacing as to secure the strength desired.—Portland Cement Association.

From H. Bert Cave, Parker, Colo., we have the following concerning well, windmill pump and tank for supplying dwelling, barns and corrals with water:

My well is 30 feet deep. The distance from well to tank on hill is 335 feet. Measuring from the top of the well the tank is 50 feet high, which makes an 80-foot raise for the windmill pump, besides the friction of 335 feet of pipe to overcome. The mill is an Eclipse ten-foot wheel on a 40-foot tower and it handles the water nicely. Everything is underground to prevent freezing. The working head is set down three feet under the platform of the well, connecting there with the pipe to the tank. —H. B. C.

Adobe Potato Storage

On the cover of your issue of September 1st you used a picture of some adobe potato storage houses in the San Luis valley. Can you give me the name of the owner of the farm on which this picture was taken and some particulars about the size and cost of such storage.—H. E. H.

The three adobe storage houses are located on the farm of E. C. Wright, near Monte Vista, Colo., in the San Luis valley. Because the water table is so high storage houses in that district have to be built above ground. The walls of these buildings are double, each wall being one foot thick, with 12-inch air space between walls. Each house is 80x40 feet, with driveway, and each will hold 20 carloads of potatoes. The roof is made with poles, covered with fencing, straw and a foot of earth. The cost of each storage is $1,500. Each house has six small ventilators, 6x6 inches. These ventilators are said to be too small. The potatoes are sacked in the field as it would be difficult to handle potatoes in bulk in a storage house of this type.

Whorled Milkweed Suspected

Please advise me about the following: I have a flock of sheep and they get poisoned and many of them die. Then they have another trouble. Their bags swell and they go dry. The bags get as hard as rock and the ewes fall over.—J. G., Gunnison county, Colo.

In your location, and at this time of the year, I suspect the whorled milkweed as causing the death of your sheep. The college will be glad to identify any plants suspected of being poisonous. Our bulletins on Colorado Plants Injurious to Livestock and The Whorled Milkweed have been sent to you under separate cover. Inflammation in the udders of sheep (Mammitis) has been reported to this office several times of late. It is no doubt infectious and should be handled accordingly. Diseased sheep should be kept apart from the others. Milk from the diseased udder will not be wholesome for the lamb. The udder should be milked out several times a day. Hot applications should be applied with gentle hand-rubbing. In a large flock it is quite a chore to treat individual sheep; much more can be accomplished by trying to prevent the disease becoming general among the ewes. Keep diseased ewes by themselves and see that lambs do not carry the infection to others. Clean litter out of the pens and use disinfectants freely.—Dr. Geo. H. Glover, Veterinary Dept., Colo. Agricultural College.

Probably Was Blackleg

I have just lost a seven months' old calf. It was only sick half a day. He was not able to stand up, but would fall over like he had no use of his legs. He was running at the nose and mouth and could not see or swallow well. Was bloated quite badly. What should I have done to save him?—J. D., Morgan county, Colo.

I strongly suspect that the calf died of blackleg, but am not sure. If so, large doses of blackleg serum might have saved him and the aggressin would have protected him from the disease. In case of blackleg there is usually a crepitant swelling over the shoulder or hip, lameness and death within a few hours. The calf may have died from indigestion and accumulation of gases. Again poisonous plants are always under suspicion in case of sudden death of animals.—Dr. Geo. H. Glover, Veterinary Dept., Colo. Agricultural College.

Official Potato Grades

Please publish for the benefit of potato growers who are readers of your paper the official potato grades.—J. M. C., Eagle county, Colo.

U. S. Grade No. 1; This grade shall consist of sound potatoes of similar varietal characteristics, which are practically free, (a) from dirt or other foreign matters, frost injury, sunburn, second growth, cuts, scab, blight, dry rot and demage caused by disease, insect or mechanical means. The minimum diameter (b) of potatoes of the round varieties shall be one and seven-eighth, (1⅞) inches, and of potatoes of the long varieties, one and three-fourth, (1¾) inches. In order to allow for variations incident to commercial grading and handling, five per centum by weight of any lot may be under the prescribed size, and, in addition, three per centum by weight of any such lot may be below the remaining requirements of this grade.

U. S. Grade No. 2: This grade shall consist of potatoes of similar varietal characteristics which are practically free (a) from frost injury and decay, and which are free from serious damage (c) caused by dirt or other foreign matters, sunburn, second growth, cuts, scab, blight, dry rot, or other disease, insects, or mechanical means. The minimum diameter (b) shall be one and one-half (1½) inches. In order to allow for variations incident to commercial grading and handling, five per centum by weight of any lot may be under the prescribed size, and, in addition, five per centum by weight of any such lot may be below the remaining requirements of this grade. Explanations of grade requirements.

(a) "Practically free' means that the appearance shall not be injured to an extent readily apparent upon casual examination, and that any damage from the causes mentioned can be removed by the ordinary process of paring without appreciable increase in waste over that which would occur if the potato were perfect. Loss of the outer skin (epidermis) only shall not be considered as an injury to the appearance.

(b) "Diameter" means the greatest dimension at right angles to the longitudinal axis.

(c) "Free from serious damage" means that the appearance shal not be injured to the extent of more than twenty per centum of the surface, and that any damage from the causes mentioned can be removed by the ordinary processes of paring without increase of waste of more than ten per centum by weight over that which would occur if the potato were perfect.

NOTE.—For the purpose of these recommendations no attempt has been made to provide grades for potatoes of extra fancy quality and size, such as special baking potatoes used in dining cars, hotels, and restaurants, or for lots composed of potatoes of different varietal characteristics, or for potatoes under the minimum diameter and other requirements of the U. S. Grade No. 2.

As to food, the Allies have no reason to fear the future, while the enemy dare not look into the coming winter without a shudder.

Canada has gone us one better on the sugar ration and is down to one and one-half pounds a month.

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What the Editor Saw at the Colorado State Fair

(Continued from Page 3)

grown exclusively on dry lands.

For the best display of fruit, Fremont county was first with a $75 prize, Delta county second, Pueblo third, Mesa fourth, and Otero fifth.

The prizes for best agricultural products exhibited by counties went to Logan, Cheyenne and Huerfano in the order named.

There was much comment on the exhibits of dry land products shown by Cheyenne county, some of which were of such excellence that they won premiums when put in competition with the same kind of product grown under irrigation. This was true of hog millet, Russian millet, common millet, Sudan grass and several other exhibits. Cheyenne county emphasized the fact that farm products can be manufactured where grown by showing some fine cheese made at the Cheyenne Wells factory, and also some brooms made in that town from brush grown in the county. The corn shown in this exhibit attracted attention because of the splendidly filled and well-matured ears in the twenty ten-ear exhibits. Another feature was the showing of sorghums, such as Sudan grass, Kafir, milo and feterita, and some fine dry land pinto beans and alfalfa. The exhibit was in charge of Mr. J. W. Shy, who was kept busy answering questions about the opportunities for farming in his county.

"The exhibits answer the question," said Mr. Shy to inquirers.

Huerfano county brot a fine collection of dry land exhibits which included small grains such as spring wheat, bald barley, bearded barley, Turkey red winter wheat, on all of which first premiums were given this county. There was alfalfa from altitudes of 7,500 feet that attracted much attention because of its quality.

The agricultural products were judged by Prof. Alvin Kezer of the Agricultural College.

Pueblo War Gardens

Four tables holding nearly 1,500 entries were used to display the products grown by Pueblo boys and girls in the 1917 war gardens. For the east side schools alone almost 10,000 packages of seed were distributed last spring and that section of the city had 55 acres in gardens. The total enrollment for Pueblo in the war garden work was 1,400. This work was handled under the general supervision of Fred W. Huling, and W. D. Blaine, principal of the Fountain school, had charge of the East Pueblo schools. One of the remarkable things in this exhibit was the fine display of peppers. Numerous varieties were shown, all of them grown to perfection under the climatic and soil conditions existing in the city of Pueblo. Very little attention has been given this crop in the past, but there is a field for its development in Colorado on account of the demand from Texas, New Mexico, and the southwest in general, where peppers are an important article of the dietary. The use of this plant is general among our Spanish-American citizens and their cookery is gradually being adopted by native Americans all thru the southwest.

Texas uses an enormous quantity of peppers in cooking, especially in the green form. During July and August of each summer gardens in the South are dead because of the heat and at that period of the year Colorado peppers are in demand there. During the present season carload shipments were made from the Pueblo district to Texas points.

Another thing developed in the Pueblo garden exhibit is the fact that potatoes can be grown in that town. There were good exhibits of spuds, some of which came from the sandy loam soils and others from the clay or adobe on which it has hitherto been considered almost hopeless to try growing potatoes.

Spanish peanuts were shown fully ripe with well filled pods and fine top growth. In fact, hardly any garden plant grown under temperate zone conditions was missing from this list of 1,500 products grown by the boys and girls of the state fair city. There were 17 canning teams at Pueblo and the exhibit in this line also was excellent.

The Colorado Office of Markets made a practical exhibit which included a demonstration of egg candling. This was in charge of Mr. N. L. Jewett, an investigator for the bureau. The exhibit was equipped with cases of market eggs and a very simple candling lamp by means of which Mr. Jewett was able to show farmers and their wives how to candle their own eggs and thereby increase the price received for the product. There was much interest in this demonstration, the Marketing Bureau's booth being constantly surrounded by an eager crowd.

The bureau also has been making an exhibit of graded potatoes, No. 1 and 2 grades, and ungraded stock. This was put on first at the Weld county community fair in Greeley, and it caused much comment because Greeley is the center of a potato growing district. There is no opposition to grading when it is once understood and the farmers are assured that grading means better prices. The market willingly pays more for sorted stock of the first grade; the second grade brings a fair price, and the ungraded potatoes remaining are in demand for the cheaper trade and are sold for what they may be worth. The growers were shown by this exhibit that grading is of benefit first of all to them and that it is also a protection for the consumer, having a tendency to cause an increased use of potatoes by those who appreciate quality and are willing to pay for it.

High Altitude Potatoes

Among the attractive individual exhibits was a box of Red McClure potatoes shown by J. C. Thomas & Son of Romeo, Colorado, in the San Luis Valley. These potatoes took first premium for the variety in individual exhibits. They were grown at an altitude of 7,775 feet. They were planted May 14, and digging began August 6, having matured in eighty days. Mr. Thomas, who attended the fair, stated that he got the seed from the Sweet ranch at Carbondale five years ago and that he has been practicing hill selection and growing all his seed in separate plots. In this way he has kept the strain pure and vigorous, the result being a very uniform potato of marketable size and quick maturity. Practically his entire crop this year was No. 1 grade, and he did not have to use a grader to sort them. He had 15 acres of these fine spuds and he sold them in the field at $1.85 to $2.15 per cwt. Digging was finished September 17, and the last of the crop had been moved off the place before Mr. Thomas came to the state fair. The exhibited spuds were picked up from field run in cleaning up the shipments.

Mr. Thomas says he got his first inspiration for growing good quality spuds, true to type, by listening to lectures on a potato extension special that visited the San Luis Valley about six years ago. He then got seed from the Sweet ranch, which is known wherever potatoes are grown, and with this foundation stock kept pure he has developed into a successful grower whose product is always in demand.

May 14 is invariably his planting day, for sentimental reasons. It is his birthday and, regardless of the moon, that date always give his spuds a good start. He figures that he got a good start himself on May 14 and isn't afraid to trust his spuds to that date.

Boys and Girls' Awards

Arapahoe county won the canning team contest against hard competition. More complete details concerning the winning team will be given in a later issue. Following are the awards in Boys' and Girls' club work:

Canning team contest: Araphoe county canning team, first; Kit Carson county canning team, second; Boulder county canning team, third; Morgan county canning team, fourth.

Ten ears of corn grown by irrigation: Frank Bixlan, first; Carl Hixon, second; Charles Kolsey, third.

Ten ears of corn grown by non-irrigation; Frank Harnaught, first; John Lorance, second; Emmet Bush, third.

Peck of potatoes grown by non-irriga-

(Turn to Page 21)

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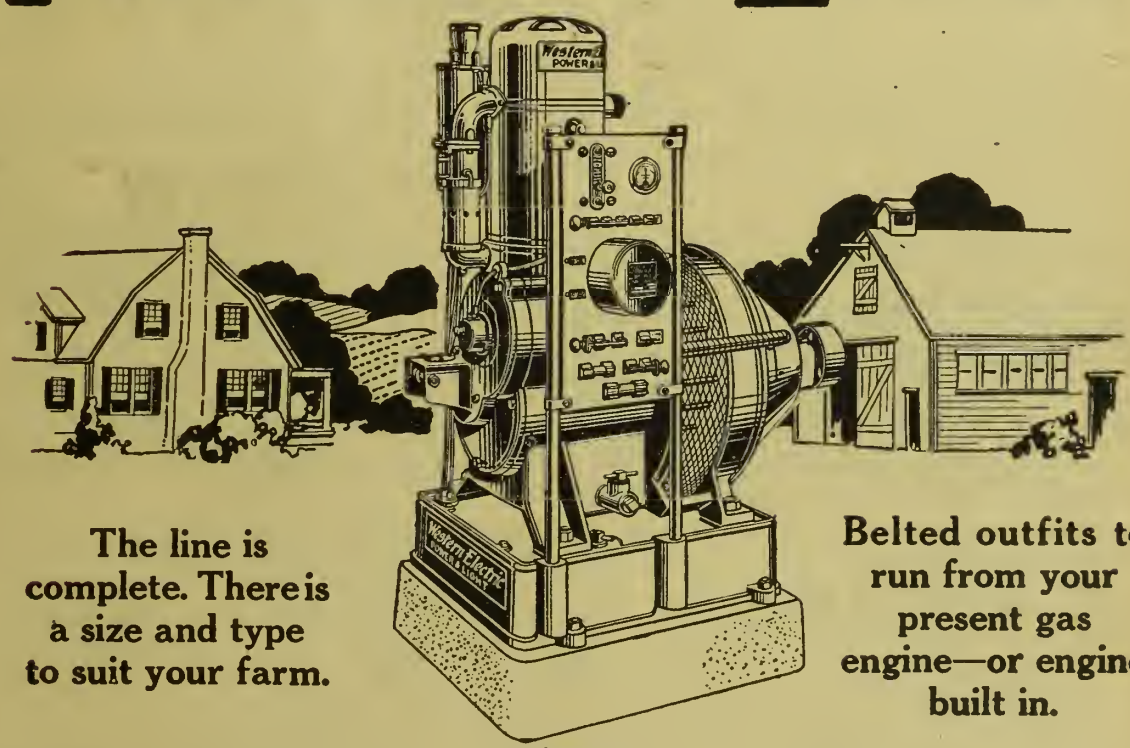

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High prices for dairy animals are the medium by which many people are attracted to cattle breeding because they show the reward that awaits the diligent and careful breeder. A few argue that if one need pay such a price to own a great animal there is little hope of a poor man owning a great sire. That is opposite to the point. Breeding great cattle is the game that makes poor men rich, because if the breeder produces great animals someone is ready to pay a long price for the results of his effort.

Hugh G. Van Pelt, a comparatively young Jersey breeder, is the man in this case who has reaped the harvest and who wisely relinquished only a half-interest in the bull calf Financial Sensation, which was bought by Mr. P. M. Sharples, president of the Sharples Separator Co., and his business associates. In addition to buying this $30,000 interest in a bull, Mr. Sharples has also bought twenty females from the Waterloo Farm and will continue the breeding operations of the farm that has specialized on this family or "strain."

Prohibition Helps Dairying

Increased demand for milk following curtailment of brewing in the United States is a probable development in the Nation's food situation during the coming year. In a recent conference with Food Administration officials at Washington, R. C. Reed, Secretary of the Michigan Milk Producers' Association, presented facts of unusual interest to all dairymen. Since last May when Detroit became dry consumption of milk, according to Mr. Reed, increased 20 per cent and of buttermilk about 50 per cent. To satisfy this sudden demand, it became necessary to bring in milk from greater distances and to a considerable extent utilize the supply formerly made into cheese.

Not only has consumption of milk increased in private homes but many saloons have been converted into lunch rooms and ice cream parlors. These establishments have become new outlets for milk and its numerous products. The large increase in buttermilk consumption is explained by its mild acidity, which seems to allay the alcoholic craving.

While the Detroit percentages should not be considered an exact index to future conditions in other cities, they emphasize the present importance of dairy products in the world food program. Curtailment in the supply of alcoholic beverages and similar drinks may be expected to stimulate demand for milk to a very material degree.

Stabilizing Cottonseed Meal

In spite of the lower yield of cotton and the increased cost of production, the organized cottonseed producers have agreed with the Food Administration to stabilize the price of cottonseed at the average of last year. This is a concession on their part to the cattle-feeding and dairy interests in this country. The prices will vary from $64 to $72 per ton in carload lots, f. o. b. cars, depending upon the yield in oil.

Differentials have been fixed for crushing seed on the basis of last year's cost and regulated profit of last year, plus the increased cost imposed by change in labor, transportation and supplies. As a result the price of meal is about $3 per ton higher than last year.

The Food Administration feels satisfied that stabilization of this industry by voluntary agreements of all concerned will greatly eliminate speculation and all interests will be protected. Details of the seed prices assessed to local zones and yields will be issued by the Federal Food Administrators in each state.

Keeping Butter For Winter

Fifty years ago, before the cold storage and the creameries were developed, it was common practice to preserve the butter made in the summertime for use in the winter by packing it in jars and storing in a cool place. The market at that time as compared to now was not critical. Such butter could not be sold in the city market at present. It is possible, however, to preserve butter in fairly good condition, says C. H. Eckles of the University of Missouri College of Agriculture, and those who are willing to use butter that is not first class may find it of advantage to use this plan.

Butter that is to be kept for several months should be made from cream that has not been kept for more than two or three days before churning. The quicker it is churned the better. The churning should be stopped when the butter is in small granules so that as much buttermilk as possible can be worked out. It should then be worked and salted and packed in a glazed crock or jar. A layer of about one inch of brine as strong as can be made should be kept over the butter. Keep the jar cool by placing it in the basement or an ice box. Special attention should be given to keeping the butter entirely away from light and air because light and air cause butter to spoil rapidly.

Labor and the Farmer

When the United States was drawn into the great war, there was but little time lost in deciding on conscription of men, and it has proven wisdom to do so. Under this system, the best man power in the whole country answered the call of the government, not because the pay was equal to or better than they had been receiving at their various occupations, but because our government was in jeopardy, liberties were threatened, and civilization was about to be overthrown by barbarism.

Our farmers were among the first to feel the hand of the government here at home, but altho a few protested, most of them saw the wisdom of food regulation and took kindly to the new order of things. Then came the appeal for a greater production of wheat, the chief food commodity for the maintenance of our soldiers and those of the allies in the present great struggle, and the farmers immediately bent every effort to meet the demands of the government in seeding the largest acreage to wheat ever known in this country.

So far, all is well. Now comes the harvest time and the time for garnering the grain. It requires a good force of men to thresh a large crop, and altho the prices offered by the farmers are $4 per day and board, few men have willingly accepted this unheard-of wage, demanding $6 per day and board, a wage that no farmer can afford to pay and a wage that no laborer can honestly earn on the farm.

Since conscription of fighting men has proven a wise system for the prosecution of the war, why not the conscription of the bums and loafers who are physically unfit for warfare, yet refuse to accept bigger wages than they are worth to help the farmers and the government to save the crop of wheat that has been produced as a patriotic measure to win the war. If the best men in the country go forth to offer their lives at $1 per day and board, why should not these men who are not physically fit to defend the honor of their country be made to work in perfect safety and three squares per day at the same wages that our good men are getting in the most hazardous undertaking known to our present-day civilization?—Wiggins (Colo.) Courier.

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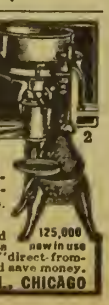

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The Grange

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C. W. SWAYZE, Stockyards Sta., Colo., Lecturer.
K. S. RHEA, Golden, Colo., Treasurer.
OTIS SCRUGGS, 1616 Arapahoe St., Denver, Business Agent and Secretary.

The Grange Stores Company has been re-incorporated and is now doing business under a state charter with a capital stock of $100,000. This will be welcome news to the thousands of members of the Grange in Colorado and neighboring states for activities are not restricted to Colorado. Every member of the Grange, no matter where he belongs, is entitled to do business thru the Stores company, which is the purchasing and sales agency for the Colorado State Grange, and is now incorporated as a business establishment. Otis E. Scruggs secretary of the State Grange, retains his title as purchasing agent and all business is transacted thru his office just as heretofore.

Announcement was made in a previous issue of the opening of a new and larger mercantile establishment, now located at 1616 Arapahoe street, Denver, where all orders should be sent. Mail orders are given the same attention as personal calls.

The Grange Stores Company carry a complete line of dry goods, groceries, shoes, hardware, automobile supplies, farm implements, lubricating oils, greases, etc., the effort being to supply the Granger with practically everything he needs to run the farm and household

Secretary Scruggs went to Kansas City early in the month to arrange for further extension of the implement business, having in view a contract with an implement concern for turning out a special brand of Grange goods. This will lead to the opening of an implement warehouse and display room in Denver, where Grangers may come from any part of this or neighboring states and make their selections at wholesale rates.

The establishment of the Grange Stores Company is in line with the policy of the organization to give the farmer a greater share of the proceeds of his own labor. The farmer works from dawn to nightfall to earn his living and often he has to pay out everything he makes in order to supply his table, or keep up the equipment of the farm. His only recourse is to eliminate some of the middlemen who are now serving him in one line or another, hence the establishment of a business so economically conducted that the Granger is enabled to buy at wholesale instead of the average retail prices.

An average saving of 27 per cent was effected to purchasers thru dealing with the Grange during the past year.

The first catalogue to be put out by the Grange Stores Company handles the subject of shoes and is now available for distribution, on application to Mr. Scruggs.

The mutual insurance feature of the Grange is also growing rapidly. Farm buildings and machinery are insured against fire, and livestock is insured against lightning or fire at rates less than half those asked by insurance companies organized for the profit of stockholders. About $8,000,000 in farm risks is now being carried. Application for further information should be made to Mr. C. H. Easley, Secretary Grange Mutual Insurance Company, Route 1, Golden, Colo.

State Master John Morris expects to attend the National Grange session at Syracuse, N. Y., November 13th to 22nd. He will be accompanied by Mrs. Morris. Because of the distance there will be no drill team representation at the National Grange this year from Colorado.

Twenty-two Tractors Took Part in Greeley Show

(Continued from Page 4)

which never gets tired, this can be easily done.

What did the demonstration show? That was for the witnesses to say. Some of the farmers present made such remarks as—"They did fine"; "It's all in the handling"; "They certainly have a place." All were mightily interested and some bought tractors at the exhibit on the fair grounds the following day.

These are tractor days. The questions are size, adaptability, ease of handling and economy of operation. The purpose of demonstrations is to answer these questions. Tractors are being bought and will be taken in larger numbers. They are as necessary in Colorado as in Ohio, where the state advises them.

The prime purpose of the purchase of a tractor by a farmer is an economic proposition that has been well stated in the following five points:

1. It will save man power.
2. It will save animal power.
3. By the saving of animal power, food will be saved for human consumption.
4. The soil may be prepared more quickly and seasonably, resulting in the planting of crops at the most opportune time, which in turn will result in a greater crop yield than by planting out of season, which frequently will follow when dependence is had upon the man and animal power available without the use of tractors.
5. The tractor not only may be used for plowing, discing, seeding, etc., but it is a valuable adjunct and a real necessity upon the average-sized farm for belt power purposes, and may be used in that way to make the farmer largely independent and permit the use of the tractor during a great portion of the year.

Farm trucks will follow and perhaps lead the tractor. Both made good at the Central Fair at Greeley.

And a word now regarding the success of this fair conducted by a farm bureau. It was clean. There were no fakers. The concessions were all on a percentage basis so no one could lose money. The horses that raced were local—the whole idea was community. The fair paid out with a neat balance. It will become an annual event and continue along the same lines.

The Weld County Farm Bureau deserves great credit for the success of the community fair and tractor demonstration. Farm bureaus can do great things for their respective counties in thus taking direction of the general agricultural activities. Following are the officers and committee chairmen of the bureau: Albert Lawrence, president; Charles F. Rodgers, secretary; Chairmen: farm finance, N. C. Dougherty; marketing, J. M. Collins; dairying, J. D. Pancake; good roads, George A. Hodgson; education, Mrs. R. M. Haythorn; cattle and horses, John E. Painter; seed, E. R. Bliss; swine, C. W. Henry.

Twenty-two makes of tractors took part, as follows:

Name	Shown by	Pulling
Avery	Avery Machy. Co., Denver	3-base Oliver Plow
Case	E. W. Johnson, Greeley	2-14-base Oliver Plow
Cleveland	H. B. Ellis, Denver	2-14-base Oliver Plow
Eagle	Parker & Son, Denver	3-14-base Oliver Plow
Fordson	Universal Motor Co., Greeley	2-14-base Oliver Plow
Four Drive	Geo. W. Smith, Denver	3-base Oliver Plow
Gray	Wm. Saighman, Denver	4-base Oliver Plow
G. M. C.	Weld Co. Garage, Greeley	3-base Oliver Plow
Heider	Eagle Motor Co., Greeley	3-base Oliver Plow
Huber	Soper & Co., Greeley	3-base Oliver Plow
Hart Parr	E. E. Scott, Denver	3-base Oliver Plow
Lauson	Sopher & Co., Greeley	3-base Oliver Plow
Moline	Sherman Motor Co., Greeley	2-base Moline Plow
National	Herbert Toogood, Denver	3-base Oliver Plow
Rumely	W. L. Cline, Greeley	3-base Gd. Detour Plow
Rumely	W. L. Cline, Greeley	4-base Gd. Detour Plow
Rumely	W. L. Cline, Greeley	4-base Oliver Plow
Titan	G. A. Benson, Loveland	4-disc Oliver Plow
Wisconsin	Coffin Merc. Co., Longmont	3-base Oliver Plow
Wallis Cub	Soper Imp. Co., Greeley	3-base Case Plow
Waterloo Boy	Geo. W. Cheney, Denver	3-base Deere Plow
Yuba	Frank E. Smith, Denver	3-base Oliver Plow

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Farm Home Department

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Lessons in conservation were taught at the Colorado State Fair by the splendid display arranged under the direction of the home economics extension division of the Colorado Agricultural college, with the assistance of the conservation committee of Pueblo. Miss Miriam M. Haynes, home economics extension worker for the college, was in charge, assisted by Mrs. Rose H. Cole, Mrs. Dollie Sonneborn of the Pueblo committee, and Miss Fanny Virgil, home economics demonstration agent for Pueblo and Freemont counties.

In the line of clothing conservation, models of renovated and made-over garments were shown and the care and laundering of clothing was demonstrated. Household articles made from sugar or flour sacks and from unbleached muslin were displayed and the women were shown how to make use of old stockings for dust cloths, kitchen holders, children's tights and home made rugs. There were simple and attractive kitchen aprons to show women how to save their better clothing while doing their housework, also examples of simple house dresses. A very interesting display showed what can be made from worn underwear. All of these displays were placarded and women were at hand constantly to answer questions about how to make the things that were shown.

In the food saving line wheat, sugar, milk and fats were the products stressed by demonstrations and exhibits. The object was to show the necessity for saving wheat, sugar and fats and for increasing the use of milk in the household. Every substitute grain was shown in its original form, in the flour made from it and in the cooked product made from the flour. Conservation of sugar was shown in the way of substitutes such as home made beet syrup, honey, maple sugar, corn sugar, corn molasses, fruit leathers and unsweetened juices made from wild native fruits and orchard fruits. There was a warning to housewives against the use of saccharine on account of digestive disturbances caused by this chemical, which is several hundred times sweeter than sugar. In the line of sugarless cakes the women were much interested in examining a product made from barley and mashed potatoes. There was no sugar nor wheat flour used in this cake.

The women who constantly crowded around this exhibit were told of the value of milk as food, it being new to many of them that even at a high price milk is cheaper than many other foods used on the table, because it contains all the essential elements for the growth and development of the human body.

The necessity for saving of animal fats was strongly emphasized and city people were advised to substitute vegetable oils wherever they could for lard and other fats hitherto used in cooking. Of course, in the farm household where animal fats—butter and lard—are home produced, it is more economical to use these than to buy vegetable oils. Four types of home made soap were shown made from rancid fats not suitable for other uses.

The demonstrations in cooking included Colorado produced foods like pinto beans, and emphasized also the various ways of using skimmed milk in cottage cheese making.

There was a good display of household conveniences by models of iceless refrigerators, fireless cookers, home made kitchen cabinets, drop leaf table, high four-legged stool, indoor clothes line, apparatus for providing water in the home, etc.

Under the head of health, home sanitation, swatting the fly, disposal of sewage and the like were shown by chart and exhibit.

The storage pit for keeping vegetables thru the winter attracted much attention, especially from town women who have grown a surplus in their gardens this year.

Miss Margaret George of England, a representative of the United States Food Administration, gave daily chalk talks on the food situation in Europe that often moved her hearers to tears and stimulated them to more saving and giving for the benefit of the war sufferers of Belgium and France.

Honey Dew Sugar

Mrs. Maude D. Mandell, of Mesilla Park, New Mexico, is doing her best to win the war and has found that the honey-dew melon is a splendid source of sugar substitute. Peach, pear and apple butter that Mrs. Mandell sweetened with honey-dew were as sweet as if sugar had been used. These butters are made by scooping out the edible part of the melon in any quantity and boiling it down a little more than one-half. An equal quantity of peach, pear, apple or grape pulp is then added and the mixture cooked to a consistency of thick butter. It is then highly spiced using cinnamon, mace, allspice or any other spice or combination of spices desired. After the spice is well blended with the butter it is placed boiling hot into hot sterilized jars and sealed.

Another use for the honey-dew suggested by Mrs. Mandell is to cook it down until very thick, can and then use during the winter as a sweetening for pumpkin or squash pie filling.—The Southwest Plainsman.

The Nature of Milk as Food

Milk is often stated to be a perfect food. By this we mean that it contains all the essential elements for normal human growth and development.

The adequacy of a food or diet depends briefly on its containing:

1. Enough of the right sort of material to build up and repair the living tissues of the body. These body-building substances in the food are called proteins, and are found especially in milk, meat, fish, eggs, and in certain vegetables, especially beans and peas.

2. Enough substances to furnish the required energy of the body. Fats, starches and sugars are the chief energy foods, and are transformed in the body into energy for work and into body heat.

3. A variety of mineral substances, which are needed in the growth and functioning of the parts of the body, such as the skeleton, the brain, the blood, etc.

4. An aedquate amount of certain substances whose nature is not yet fully known but whose presence in the diet has been demonstrated to effect body growth in animals or man. These substances, known as vitamines, growth determinants, or the unknown dietary factors, are therefore essential elements in our food.

5. No substance poisonous to the average individual nor one which will not allow of normal digestive processes.

In addition, to be properly digested and of the utmost nutritive value, articles of diet must also be of pleasing taste, palatable, and preferably of a consistency and appearance similar to the foods in customary use by the race. Clean milk fulfills all of these requirements for an adequate food better than any other single foodstuff.

Milk is, then, in a sense, a complete food; if used as the sole food it will sustain life and allow growth. It is used as an exclusive diet for young children, but after infancy supplementary foods need to be included in the diet for the best development. For one reason, milk—which, in respect to all its ingredients, ranks among the most digestible of animal foods—is so completely disgested that there is practically no waste. Tho this complete digestibility renders milk one of the most efficient foodstuffs, a certain amount of non-digestible material in the food—so-called roughage—is necessary to regulate the discharges from the digestive tract. For this reason, and for several others, a mixed diet after the first year of life is better than an exclusive milk diet.

Milk has in the curd a protein of a more valuable nature in regard to its ability for building or renewing body tissues than that found in vegetables or even in meat. There is no other animal protein procurable at so low a price.

Milk as a source of energy, or as fuel for the body, compares most favorably with other foods. The energy value of a quart of milk is about equivalent to that of a pound of lean meat or to eight eggs. As a source of energy cereals are, however, far cheaper than either milk, meat or eggs; and, therefore, cereal and milk is the ideal combination of foods to furnish body energy in childhood.

Calcium salts (lime), supplied in our food, are necessary not only for bone formation but for the development of the important organs of the body, especially the glands of internal secretion.

Of all foodstuffs milk is the cheapest and most abundant source of calcium and milk also provides other important mineral salts, such at potassium and phosphorus. Therefore, since growth is measured by bone formation, and since the child must have a steady, abundant supply of these essential minerals, milk should be included in every child's diet.—Dorothy Reed Mendenhall.

Preserving in Water Glass

Please tell me the proper way to pack eggs in water glass. Is it necessary to keep the eggs so packed in the cellar or will any room do? Can the water glass used for packing eggs last fall be used again this fall, or must it be freshly made each season?—J. A., Logan County, Colo.

We are sending you a water-glass recipe for preserving eggs. We have used the liquid a second time, when it remained clear, but generally destroy the material and pack in fresh water-glass solution. We have been able to buy the water-glass at a very low price, and felt that it was better to use the fresh than to risk losing some of the eggs. We place our jars containing the eggs in the cellar with the fruit and vegetables. I do not know what effect a very warm room would have on the eggs, but find it convenient to put in a cool place.

The water-glass formula is as follows: Water glass is a substance used in glass making. It is made by melting

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together quartz, sand, and soda ash, and looks like thick, white syrup. It can be bought at drug stores, feed and poultry supply stores.

How to Use Water Glass. Wooden kegs, candy pails, or stone jars, are usually used for holding the eggs. Prepare the vessel by cleaning thoroly; boil fourteen (14) quarts of water and while the water is still warm, add one (1) quart of water glass and mix well. Some recipes call for one (1) part of water glass to nine (9) parts of water, but the above recipe of one (1) to fourteen (14) has been found very satisfactory and much cheaper. If the vessel is about half filled with this solution, the eggs may be put in from day to day as they are gathered, and this amount of solution will usually cover the eggs when the vessel is full. There should be sufficient solution to cover the eggs, so that none are exposed to the air. Covering the vessel with oiled or greased paper will prevent evaporation. The eggs should be kept in the same way as are canned fruits or vegetables.

Eggs may be placed in the vessel in any position. Boiled water is quite sure to be pure. Only clean, fresh eggs should be used. One part water glass to fourteen parts water.

A one-gallon jar holds about three dozen eggs.

A three-gallon jar holds about nine dozen eggs.

Pure water, clean, fresh eggs, clean vessels, stored in a cool, dry place, will mean plenty of good, cheap eggs next winter. Do not be alarmed if the liquid thickens; just be sure the eggs are always well covered. If these eggs are sold, they must be sold as packed eggs. Eggs require no attention after being put away. If wooden pails are used they should be soaked in water a few days to remove the stain of new wood.

Winter Vegetable Storing

A limited quantity of vegetables can be stored satisfactorily for winter use in a large box or barrel buried in the ground. The container should be set in a hole, the edges flush with the ground, and a layer of sawdust placed between the earth and the sides of the box or barrel to serve as insulation and to absorb drainage water. If a box is used, it should have a tight-fitting cover hinged on one side, and to give complete protection a larger box can be inverted over the one buried in the ground. For storing a few home garden products for winter use, says J. T. Rosa Jr., of the University of Missouri College of Agriculture, a small contrivance of this sort may be very useful, especially for root crops and potatoes.

To store parsnips, salsify, rutabagas and other root crops which are not injured by freezing, an outdoor trench is satisfactory. This must be in a well-drained spot and should be 3 feet deep 3 or 4 feet wide, and as long as desired. The roots are placed in the trench in direct contact with the earth, but at a somewhat later date than when placed in outdoor banks. The roots are piled about flush with the ground line and covered with a six-inch layer of earth and a heavy mulch of straw or manure on the surface, which completes the insulation. Celery and cabbage are stored, nicely in shallower trenches of this style, but generally must be used by mid-winter. The root crops can be kept to the midde of the spring if the outdoor trenches are in a shaded spot.

Barley and Potato Cake

Recipes by Rose H. Cole, Urban Home Demonstration Agent, Pueblo.

¼ cup fat
½ cup Karo
¼ cup sugar
2 eggs
½ cup mashed potato
½ teaspoon vanilla
1¼ cup barley flour
½ teaspoon salt
½ teaspon cinnamon
¼ teaspoon nutmeg
3 teaspoons baking powder
2 teaspoons water.

Combine in order given. Fold in white of eggs last. Bake in two medium cake pans. Use jelly for filling.

Chocolate and Potato Cake

¼ cup fat
½ Karo
¼ cup sugar
½ cup mashed potatoes
2 eggs
¼ cup water
1 cup flour
½ teaspoon soda
½ teaspoon salt
½ teaspon cinnamon
½ teaspoon cloves
½ teaspoon nutmeg
3 tablespoons melted chocolate
1 cup nut meats.

Combine in order given. Fold in white of eggs last. Bake in loaf in moderate oven.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2601—A Smart Suspender Dress—Lovely for combinations of material or remodeling. Serge, gabardine, plaid or check suting would do for the skirt, and crepe, lawn, madras or drill for the waist. The model is nice for velvet and silk, or serge and taffeta. Cut in sizes 6, 8, 10 and 12 years. Size 10 requires 4 yards of 36-inch material.

2603—Simple Style For Tots—This model is nice for gingham, seersucker, chambrey, repp, poplin, crepe, serge, flannellette and gabardine. The belt and pockets may be omitted. The sleeve may be finished in wrist or elbow lngth. Cut in sizes 1 year, 2, 4 and 6 years. Size 4 will require 2½ yards of 44-inch material.

2598—For Early Fall Suit—It is nice for velveteen, satin, serge, Jersey cloth, plaid or checked suiting. The over-blouse is finished separately. The two-piece skirt is joined to a semi-fitted waist, which holds the collar and revers, and under which the vest is arranged. Cut in sizes 34, 36, 38, 40, 42 and 44 inches bust measure. Size 38 requires 7½ yards of 40-inch material. The skirt measures about 2 yards at the foot.

Combination Skirt and Waist—Waist—2595. Skirt—2597.

Pattern 2597 supplies the skirt, and pattern 2595 the waist. One could make the skirt of plaid suiting, of serge, velveteen or corduroy. The waist could be of crepe, taffeta, batiste, linen, madras, flannel, voile or repp. The waist pattern is cut in 6 sizes: 34, 36, 38, 40, 42 and 44 inches bust measure. It requires 3 yards of 36-inch material for a 38-inch size. The skirt is cut in 6 sizes: 22, 24, 26, 28, 30 and 32 inches waist measures. Size 24 requires 3¼ yards of 36-inch material. It measures 2 yards at the foot. This illustration calls for TWO separate patterns.

2515—Comfortable Coat Style—Easy to develop and good for satin, silk, pique, as well as cloth, serge, mixtures, plush, velvet and other cloakings. The fronts are lapped at the closing. The belt is cut in two parts. Double-faced cheviot with trimming of broadcloth would be good for this. For a more dressy model, plush or other pile fabrics could be selected. Cut in sizes 6, 8, 10, 12 and 14 years. Size 12 will require 3¾ yards of 36-inch material.

2584—Girls' School Dress—A comfortable, coming model; good for serge, gabardine, velvet, plaid and other suitings. It is also nice for linen, galatea, gingham, chambray and percale. The skirt has plaits in back and front. Cut in sizes 8, 10, 12 and 14 years. Size 12 will require 4¼ yards of 44-inch material.

2435—Easy to Make Apron—This model is nice for percale, for galatea, Indian head, khaki, chambray and gingham. The back portions button over the fronts. In 4 sizes: Small, 32-34; medium, 36-38; large, 40-42 and extra large, 44-46 inches bust measure. A medium size requires 4⅝ yards of 36-inch material.

2592—Comfortable House Dress—It is simple and easy to develop. Seersucker, gingham, chambray, lawn, percale, drill, linene, or linen may be used. Flannellette, Cotton gabardine, repp and poplin are also desirable. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 5 yards of 44-inch material. The dress measures about 2⅜ yards at the foot.

Sprouted Grain as Seed

On account of the rainy weather of the last few weeks, it has been impossible to thresh much of the wheat, and large amounts have sprouted in the shock. The question is frequently asked: "Can sprouted grain be used as seed?" The grains of wheat, and the seeds of a number of other agricultural plants, are capable of repeated germination. That is, a grain may start to sprout, the process be stopped by dryness, and sprout again if moisture is available. Of course, the vitality of a sprouted grain is somewhat lower than that of one that has not sprouted. Sprouted grain should never be used for seeding purposes, when it is possible to obtain seed that has not gone through this process. —W. W. Robbins, Colorado Agricultural College, Fort Collins, Colorado.

Agricultural Draft Advisors

The Department of Agriculture has announced the appointment of the following men to act with the district draft boards of Colorado as advisers regarding agricultural needs:

W. D. Keen, Pueblo, Colo.—Agricultural adviser to district board for Division No. 1, with headquarters at 306 Federal Building, Pueblo, Colo.

C. L. Hover, Longmont, Colo.—Agricultural adviser to district board for Division No. 2, with headquarters at 244 Capitol Building, Denver, Colo.

The agricultural advisers are not to be members of the district boards, but are to furnish to the boards facts relative to farm-labor requirements, not only of their own districts but of the entire country. Such information will be supplied to the advisers by the Department of Agriculture. The advisers also may concern themselves with individual cases before the district board. County agents of the Department of Agriculture have been supplied with questionnaires to be sent out for the purpose of securing facts about the farm-labor needs in the counties.

STATEMENT OF THE OWNERSHIP, MANAGEMENT, CIRCULATION, ETC., REQUIRED BY THE ACT OF CONGRESS OF AUGUST 24TH, 1912, OF "WESTERN FARM LIFE," PUBLISHED SEMI-MONTHLY AT DENVER, COLO.—FOR OCTOBER 1, 1918.

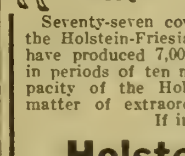
State of Colorado, County of Denver. Before me, a notary public in and for the state and county aforesaid, personally appeared W. S. Edmiston, who, having been duly sworn according to law, deposes and says that he is the business manager of the Western Farm Life, and that the following is to the best of his knowledge and belief a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption required by the Act of August 24, 1912, embodied in section 443, Postal Laws and Regulations, printed on the reverse of this form, to-wit:

1. That the names and addresses of the publisher, editor, managing editor and business manager are:
Name of Publisher—The Farm Life Publishing Co., Denver, Colo.
Editor—A. T. Steinel, Denver, Colo.
Managing Editor—A. T. Steinel, Denver, Colo.
Business Manager—W. S. Edmiston, Denver, Colo.
2. That the owners are:
The Farm Life Pub. Co.
W. S. Edmiston, Denver, Colo.
A. T. Steinel, Denver, Colo.
3. That the known bondholders, mortgagees and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages or other securities, are: None.
4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contains not only the list of stockholders and security holders as they appear upon the books of the company, but also in cases where the stockholders or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustee, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association or corporation has any interest, direct or indirect, in the said stock, bonds or other securities than as so stated by him.

W. S. EDMISTON,
Business Manager.

Sworn to and subscribed before me this 21st day of September, 1918.

KATHARINE LAWRENSON,
Notary Public.
(My commission expires November 27, 1921.)



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At the beginning of the 1918 crop year, the Prussian state office for foodstuffs and eggs ordered that poultry keepers must deliver to the government from 25 to 30 eggs from each hen kept. In many districts, however, the minimum compulsory delivery was raised to 50 eggs. More lately the state office has ruled that one hen is to be allowed free for each member of the household, prisoners of war not included. Regulations of this kind are typical of the detailed supervision which Germany has assumed over her people. The logical answer from American poultrymen is an abundant production of eggs and meat to demonstrate the results of voluntary action under democratic government.

R. I. Reds Standards

The Standard of perfection as published by the American Poultry Association calls for the following in R. I. Reds:

(Single and Rose Comb)

The Rhode sland Reds are an American production now generally regarded at poultry exhibitions as being a new breed, though they have been bred in large numbers for practical purposes in Rhode Island during many years, taking their name from that state. They are believed to have originated from crosses of the Asiatics, Mediterraneans and Games. Their chief characteristics are: red color, oblong shape, compact form and smooth surface plumage.

Disqualifications

Ear-lobes more than one-half positive white; one or more entirely white feathers showing in the outer plumage; shanks and feet other than yellow or reddish-horn. (See general disqualifications.)

Standard Weights

Cock	8½ lbs.
Cockerel	7½ lbs.
Hen	6½ lbs.
Pullet	5 lbs.

Shape of Male

Head: Medium size, carried horizontally and slightly forward.

Beak: Medium length, slightly curved.

Eyes: Large, oval, prominent.

Comb: Single, medium in size, set firmly upon head, perfectly straight and upright, with five even, well-defined points, those in front and rear smaller than those in the center; of considerable breadth where it joins to the head; blade mouth, not conforming too closely to shape of head, free from serrations.

Comb: Rose, low, firm on head; top, oval in shape, and surface covered with small points terminating in a small spike at the rear. The comb to conform to the general curve of the head.

Wattles and ear-lobes: Wattles, of medium size, equal in length, regularly curved, free from folds and wrinkles. Ear-lobes, oblong, well defined, smooth, proportionate in size to other head adjuncts.

Neck: Medium length; hackle, abundant, flowing over the shoulders, not too loosely feathered.

Wings: Of good size, well folded, carried horizontally.

Back: Broad, long, carried horizontally, with slight concave sweep to tail; saddle feathers, of medium length, abundant.

Tail: Of medium length, well spread, carried at an angle of forty degrees from the horizontal, thus increasing the apparent length of the fowl; sickles, of medium length, extending slightly beyond main tail feathers; lesser sickles and tail-coverts, of medium length, large, well covered with soft feathers.

Breast: Deep, full, well rounded.

Body and fluff: Body, broad, deep, long; keel-bone, long, straight, extending well forward, giving body an oblong appearance; feathers carried close to body. Fluff, moderately full.

Shanks and toes: Shanks, of medium length, well rounded, smooth, set well apart. Toes, of medium length, straight, strong, well spread. Shanks and toes free from feathers, stubs and down.

Shape of Female

Head: Medium size, carried horizontally and slightly forward. Beak: Medium length, slightly curved.

Eyes: Large, oval.

Comb: Single, medium in size, set firmly upon head, perfectly straight and upright, with five, even and well defined points, those in front and rear smaller than those in center.

Comb: Rose, low, firm on head, much smaller than that of the male, and, in proportion to its length, narrower; covered with small points and terminating in a small, short spike at the rear.

Wattles and ear-lobes: Wattles, of medium size, equal in length, regularly curved. Ear-lobes, oblong, well defined, smooth, proportionate in size to other head adjuncts.

Neck: Of medium length; hackle, moderately full.

Wings: Rather large, well folded; fronts, well covered by breast feathers; flights, carried nearly horizontal.

Back: Broad, long, carried horizontally.

Tail: Rather short, moderately spread, carried at an angle of thirty-five degrees from the horizontal.

Breast: Deep, full, well rounded.

Body and fluff: Body, broad, deep, long; keel-bone, long, straight, extending well forward, giving body an oblong appearance; feathers carried close to body. Fluff, moderately full.

Legs and toes: Thighs, of medium length, well covered with soft feathers; shanks, of medium length, well rounded, smooth. Toes, of medium length, straight, strong, well spread. Shanks and toes free from feathers, stubs and down.

Color of Male

Beak: Reddish-horn.

Eyes: Red.

Comb, face, wattles and ear-lobes: Bright red.

Neck: Rich, brilliant red; under-color, red.

Wings: Wing-bows, brilliant red; primaries, upper web red, lower web black with narrow edging of red, only sufficient to prevent the black from showing on surface when wings are folded in natural position; primary-coverts, black; secondaries, lower web red, the red extending around the ends of the feathers, the remainder of each feather, black; the five feathers next to the body being red on the surface, so that the wing folded in natural position shall show in harmonious red color; wing-coverts, red.

Back: Rich, brilliant red; under-color, red.

Tail: Main tail and sickle feathers, black or greenish black; tail coverts, mainly black, but may become red as they approach the saddle.

Breast: Rich red; under-color, red.

Body and fluff: Rich red; under-color, red.

Shanks and toes: Rich yellow, or reddish-horn color. A line of red pigment down sides of shanks extending to tip of toes is desirable.

Plumage: General surface, rich, brilliant red except where black is specified, free from shafting or mealy appearance; depth of red color is slightly accentuated on wing-bows and back, but the less contrast between these sections and the hackle and breast, the better. A harmonious blending of all sections is desired. The bird should be so brilliant in luster as to have a glossed appearance. The under-color should be red.

Color of Female

Beak: Reddish-horn.

Eyes: Red.

Comb, face, wattles and ear-lobes: Bright red.

Neck: Surface color red, with slight ticking at end of feathers on lower hackle; under-color, red.

Wings: Wing-bows, red; primaries, upper web red, lower web black with narrow edging of red, only sufficient to prevent the black from showing on surface when wings are folded in natural position; primary coverts, black; secondaries, lower web red, the red extending around the ends of the feathers; the remainder of each feather, black; the five feathers next to the body, red on the surface, so that the wing, folded in natural position, shall show one harmonious red color; wing-coverts, red.

Back: Rich red; under-color, red.

Tail: Black, except the two top feathers, which may be edged with red.

Breast: Rich red; under-color, red.

Body and fluff: Red; under-color, red.

Shanks and toes: Rich yellow, or reddish-horn color; a line of red pigment down sides of shanks, extending to tip of toes is desirable.

Plumage: General surface-color, rich, even red, except where black is specified, free from shafting or mealy appearance; under-color, red.

Wonderful Egg Producer

Any poultry raiser can easily double his profits by doubling the egg production of his hens. A scientific tonic has been discovered that revitalizes the flock and makes hens work all the time. The tonic is called "More Eggs." Give your hens a few cents' worth of "More Eggs," and you will be amazed and delighted with results. A dollar's worth of "More Eggs" will double this year's production of eggs, so if you wish to try this great profit maker, write E. J. Reefer, poultry expert, 4167 Reefer Bldg., Kansas City, Mo., who will send you a season's supply of "More Eggs" Tonic for $1.00 (prepaid). So confident is Mr. Reefer of the results that a million-dollar bank guarantees if you are not absolutely satisfied, your dollar will be returned on request, and the "More Eggs" costs you nothing. Send a dollar today or ask Mr. Reefer for his free poultry book that tells the experience of a man who has made a fortune out of poultry.—Adv.

Why Hens Won't Lay

P. J. Kelly, the Minnesota Poultry Expert, 92 Kelly Bldg., Minneapolis, Minn., has published a book, "The Tale of a Lazy Hen." It tells why the hens won't lay and how to make them lay every day. Mr. Kelly will mail the book free to anyone who will write him.

Trapping the Wolf

Any trapper who goes after wolf must recognize that the first precaution to take in his trapping enterprises is to destroy all traces of the human odor. The wolf is very suspicious of any human scent and strategy must be resorted to in order to catch him. Some trappers dip their traps in melted beeswax or boil them in strong sage tea before setting. Gloves, well rubbed with a good trail scent, should always be used in setting traps for wolf.

A small piece of cotton or wool should be placed under the pan of the trap in order to prevent anything from getting under the pan. Traps should be concealed carefully. One good way to trap wolf is to dig a hole along a cowpath near a fence or stream, put the trap in the hole, and sprinkle a little dirt and burnt hay over it. A few drops of the best wolf bait should be placed around the trap. Good results can also be secured if the trap is set in this manner near a badger or prairie dog mound.

An excellent method for trapping the wolf when the snow is on the ground is the following: Place a heavy stone in a sack and scent both sides of the sack well with a good trail scent. Then get on your horse and ride out to where you intend to make your set, dragging the sack after you. Then pull the drag close to your horse and make a short turn. This will also lead the wolf to make a short turn and he will not step over the trap. Extend the snow path across the prairie from stream to stream so that there will be a scented trail for the wolf to follow up to the trap. After digging a hole in the snow, the trap should be laid on a piece of white paper, set, and then carefully covered with a thin layer of snow. A few drops of the best wolf bait should be sprinkled up and down the trail near the trap.

In preparing the wolf skin for the market, it should be cased fur side out and very seldom taken off open. Pelts should be dried in a cool, dry place—not near fire or sun; good stretchers should be used. When dry enough to hold their shape, they are ready for shipment.

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It's rifle and helm and it's bayonet,
It's shovel and shard and shell
For the soldier boy in the olive drab,
Out there on the edge of hell.
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For the lad who is daring "Over there"
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—Ralph E. McMillin.

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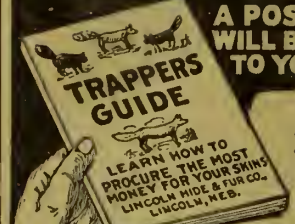

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What the Editor Saw at the Colorado State Fair

(Continued from Page 15)

tion: Stratton Home, first, second and third.

Display of vegetables grown by irrigation: Myrtle Stockton.

Best sewing club exhibit: Stratton Home Sewing club.

Best jar vegetables: Maurene Soudels.

Best jar fruit: Alice Gardner.

Best jar of canned meat: Edith Elder.

best jar of peas: Stratton Home.

best jar soup mixture: Rose Lane.

Best club display: Walsenburg canning club.

Exhibit of first year's sewing: Lewester Erickson, first; Mildred Sellry, second; Mary Wright, third.

Exhibit of second year's sewing: Nellie Shunter, first; Helen Platt, second; Fay Teets, third.

Exhibit of third year's sewing: Mabel Hixon, first; Vera Manchester, second; Lillian Smith, third.

Exhibit of canning: Pearl Lowderback, first; Mary Humble, second; Viola Brookhart, third.

Pib Club Project Exhibit

Sow over 6 months August 15, and under 1 year: Wilber Maxwell.

The Boys' and Girls' club stock judging contest was managed by J. T. Tingle, Pig club specialist of the U. S. Department of Agriculture, and it resulted as follows: Club making highest average: Saguache county, first; Larimer county, second; Huerfano county, third.

Individual club member making highest score out of a possible 200 points: Albert Morris, 193, Huerfano county, first; Ellen Noland, 188, Saguache county, second; Myrtle Stockton, 186, Larimer county, third.

Winners in this contest are to be congratulated, as the classes of livestock were close and the competition was strong, a large number of club members being entered for the work. The work of these young people was watched with the keenest interest by the adult breeders and farmers, who expressed their surprise at the knowledge shown by the young stock raisers.

Fruit District Awards

For the county having the best display of named fruits in District No. 4, embracing the following counties: Fremont, Pueblo, Otero, Custer, Conejos, Rio Grande, Alamosa, Saguache, Lake, Chaffee, Crowley, Archuleta La Plata, Montezuma.

Fremont, first; Pueblo county, second; T. F. Simpson, third.

For the county having the best display of named fruits in District 5, embracing the following counties: Mesa, Garfield, Rio Blanco, Pitkin, Hinsdale, San Juan, Dolores, Mineral.

A. C. Newton, first.

For the county having the best display of named fruits in District 6, embracing the following counties: Gunnison, Delta, Montrose, San Miguel.

H. A. Richardson, first.

County display of fruits: Fremont county, first; H. A. Richardson, second; Pueblo county, third.

Display of named fruits by Fruit Growers' Association: White & Davis, first.

Dairy Cattle Exhibit

In the dairy division Holsteins, Jerseys and Guernseys were represented, the Holstein class being especially strong, there being herds from all parts of the state. This made lively competition for the black and whites. R. W. Clark of the Agricultural college was the judge. The Holstein exhibits included the following well known herds: Avoca Lodge (Donley & Simpson, Mount Morrison), Amity Canal Model Dairy Farm; Bellplain Farm (Pueblo county); Garmesa Farms, Fruita; Spencer Penrose's Columbine herd; P. K. Hudspeth's Win-o-Dee herd.

To Fred Jensen, proprietor of Bellplain farm, fell the honor of grand champion cow, the individual entitled to that award being Woodcraft Empress Josephine 120539, a remarkably good specimen of the breed. Mr. Jensen has been breeding them in the Arkansas valley for fourteen years and he knows the game.

Garmesa Farms came over from the Western Slope to carry away the grand championship on bull, this honor going to King Segis Pontiac Garmesa, a Colorado bred animal of exceptional merit.

A. M. McClenahan's famous Majesty herd came down from Greely and swept everything clean on Jersey prizes for individuals and herd.

Clark E. Kitchen of Rocky Ford had only one contender to meet with his Guernseys and took the bulk of the awards—all except junior yearling heifer and heifer calf, which went to F. C. Kay.

The complete Holstein-Friesian awards were as follows:

Holstein Friesian

Bull 3 years or over: Spencer Penrose, first; Donley & Simpson, second; The Arkansas Valley Sugar Beet and Irrigated Land Co., third.

Bull, 2 years, under 3: Garmesa Farms, first; Fred V. Jensen, second; Spencer Penrose, third.

Bull, 1 year, under 2: The Arkansas Valley Sugar Beet and Irrigated Land Co., first; Fred V. Jensen, second; R. K. Hudspeth, third.

Bull, senior calf: Donley & Simpson, first; Spencer Penrose, second.

Bull, junior calf: Garmesa Farms, first; Donley & Simpson, second; Spencer Penrose, third.

Cow, 4 years or over: Fred V. Jensen, first and second; Donley & Simpson, third.

Cow, 3 years or under 4: Spencer Penrose, first; Donley & Simpson, second; Garmesa Farms, third.

Heifer, 2 years, under 3: Donley & Simpson, first; Garmesa Farms, second and third.

Heifer, senior yearling: The Arkansas Valley Sugar Beet and Irrigated Land Co., first; P. K. Hudspeth, second; Fred V. Jensen, third.

Heifer, junior yearling: Donley & Simpson, first; Spencer Penrose, second and third.

Heifer, senior calf: Fred V. Jensen, first; The Arkansas Valley Sugar Beet and Irrigated Land Co., second; Spencer Penrose, third.

Heifer, junior calf: Donley & Simpson, first; P. K. Hudspeth, second.

Young herd: Donley & Simpson.

GROUPS

Four animals, either sex, get of one sire: Donley & Simpson, first and second; P. K. Hudspeth, third.

Two animals, either sex, product of one cow: Donley & Simpson, first and second; Fred V. Jensen, third.

Beef Cattle

In beef shorthorns the awards were as follows:

Bull, 2 years, under 3: MaxwellMiller Cattle company.

Bull, junior yearling: Maxwell-Miller Cattle company, first and second.

Bull, senior calf: Maxwell-Miller Cattle company.

Bull, junior calf: Maxwell-Miler Cattle company.

Cow, 3 years or over: Maxwell-Miller Cattle company.

Heifer, senior yearling: Maxwell-Miller Cattle company.

Bull, any age: Maxwell-Miller Cattle company, first; Spencer Penrose, second.

Cow or heifer, any age: Maxwell-Miller Cattle company.

Two animals, either sex, product of one cow: Maxwell-Miller Cattle company.

L. C. Grant of Avondale with his herd of Herefords took everything in the white face classes.

Horses and Mules

There was a limited showing of horses and mules, the Zang Percherons and some draft horses from the Colorado State Farm representing farm drafters, J. O. D. Ranch of Aroya showing jacks and jennets and F. D. Risley of Pinon, exhibiting some good coach horses. Mr. Howard M. Jay, proprietor of Jarosa Ranch of Longmont, had a string of high school horses which gave exhibitions on the track but he did not bring his draft show string to the fair.

It Was a Duroc Show

The hog show was a Duroc Jersey event, there being but one herd of black hogs on the grounds, some good Berkshires from one of the State Penitentiary farms. Competition in the Durocs was keen, the principal contenders being Caldwell Martin of Edgemore Farm, Littleton, Blue Ribbon Farm of Pueblo county, the J. O. D. Ranch, of Aroya, and J. W. Brauer of Ivywild farm, El Paso county.

Caldwell Martin's winnings were grand champion boar, senior champion boar, grand champion sow, senior champion sow, first prize aged herd, seven first, four second and one third premium. Cherry Chief of Edgemoor, the grand champion at the 1918 National-Western, was declared grand champion of the State fair.

Blue Ribbon farm, a new organization backed by Pueblo business men and under the management of C. F. Burke, who has been breeding hogs at Rocky Ford for a number of years, had the following to their credit: first on aged board, first on senior yearling boar, third on senior yearling pig, first and second on junior boar pig, third on senior yearling sow, third on junior yearling sow, second and third on senior sow pig, first on aged herd boar bred by exhibitors, second on get of sire, second on produce of sow, reserve senior champion boar, junior champion boar and reserve junior champion boar, first, second and sixth on boar in the futurity, first and fourth on sow in the futurity, first, second and eighth on litter in futurity classes.

In the futurity there was the hottest kind of competition, the exhibitors being J. O. D. ranch, the American Beet Sugar Company, J. W. Brauer, W. L. Stone, E. D. Hardman and E. Lambuth.

The hogs were judged by L. A. Weaver of the Missouri State University College of Agriculture. The awards were as follows:

Grand Champion

Boar, any age: Caldwell Martin, first; Blue Ribbon Livestock Co., second.

Sow, any age: Caldwell Martin, first; J. W. Brauer, second.

Breeders' Ring

Boar and three sows over 1 year: Caldwell martin, first; J. O. D. Ranch Co., second; Blue Ribbon Livestock Co., third.

Boar and three sows bred by exhibitor: Blue Ribbon Livestock Co.

Boar and three sows, under 1 year: Blue Ribbon Livestock Co., first; Caldwell Martin, second; J. O. D. Ranch Co., third.

Boar and three sows under 1 year, bred by exhibitor: Blue Ribbon Livestock Co., first; Caldwell Martin, second; J. O. D. Ranch Co., third.

Four animals, either sex, any age, get of one sire: Caldwell Martin, first; Blue Ribbon Livestock Co., second and third.

Four animals, either sex, any age, produce of one sow: Caldwell Martin, first; Blue Ribbon Livestock Co., second; J. O. D. Ranch Co., third.

Barrows under 1 year: J. O. D. Ranch Co.

Sow, over 6 months, under 12: W. H. Maxwell.

(Turn to Page 23)

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Trapped

(Continued from Page 6)

went on down toward the waterfront. Hobart followed.

He saw the two stop at a flimsy wooden shed above the water. In the shadows behind it, a motor-boat's hull and the framework of a small sloop stood on the ways. Eben and the man entered the shed. They struck a light within. Hobart could not see what it was they were doing, but after a moment they came out again, carrying between them a canoe.

They bore it out to the sidewalk and laid it down, and the strange man went back to lock the door behind him. Eben gave him a slip of paper—a check, Hobart thot.

Then the two men carried the canoe down to the beach, slid it into the water. Hobart watched helplessly from the wharf. Eben climbed into the canoe, called something to the man who had helped him, and paddled out into the harbor.

Hobart for a moment was helplessly furious; then he clenched his fist. "I'm going to see where he's going," he told himself, and looked about him.

At the end of the wharf on which he stood, the masts of a "pinkie" reared themselves. He hurried that way and looked down on the littered deck of the clumsy, blunt little craft. Alongside her a fishing launch was moored, and a man in her was tinkering with the engine. Hobart called to him: "Busy?"

The man straightened himself laboriously. "Tol'able," he admitted.

"Have you any use for a five-dollar bill?"

"There is uses for a five-dollar bill."

"Take me for a ride in your boat."

"You've pussuaded me."

Hobart clambered down to the deck of the pinkie and dropped into the launch. A smell of ancient clams and many murdered fishes hung about the craft. The owner pushed her off. "Where you want to go?" he asked.

"Out toward the bay."

The engine began to bark, to shake. Hobart thot it would shake itself off its base. The launch circled and headed toward the bay. Hobart searched the dark waters ahead for sign of the canoe. At the mouth of the bay they overtook it, saw it turn eastward toward the distant, flashing bug-light. Hobart said nothing; they plugged southward, circled east at last at his command.

This time they missed the canoe, only to sight it at last near the monument. There was no wind stirring, and the water was calm and still. Eben seemed not to notice them. Hobart saw the canoe work toward the bell-buoy. When they had gone half a mile beyond, he told the fisherman to turn again; and as they came back past the buoy, he saw the dark bulk of the canoe alongside it. Eben was not to be seen.

Hobart dared not go too close for fear of alarming the lame man. "All right—go back in," he told the fisherman; and fifteen minutes later he landed on the pinkie, paid the man, and set out to walk back to the Barbette.

When he got there there was a light in Eben's little cottage, and the canoe was lying, bottom side up, on the breakwater by Hobart's cottage. Hobart stared at it helplessly, looked up the hill to Eben's lighted window, and finally shook his head and went into the cottage and to bed.

There was a submarine chaser lying off the monument next morning. Toward noon it ran over to the Barbette, and the commander landed and found Bill Marks. Marks boarded the chaser with him, and they shot across to the monument.

When Marks returned an hour later Hobart asked: "What's up?"

"That—lobster pot is gone," Marks told him.

CHAPTER VI.

ANNE MARSHALL.

Anne Marshall was a tall, quiet, dark-haired girl, with eyes in which dwelt a spirit of melancholy. Her mother was her exact opposite—slight, vivacious, sprightly. There was a gentleness about the girl, a stern hardness about the mother. When Mrs. Marshall was off guard, her lips were apt to compress, her eyes to turn cold. Before others she spoke to her daughter pleasantly; but when they were alone, her voice was commanding and insistent.

The girl served her mother quietly and without ostentation; she obeyed the older woman's whims, she met her least wishes. If there was rebellion in her it was hidden.

The Barbette had taken the girl to its heart, but the Barbette feared and disliked Mrs. Marshall; and so it happened that the Outpost cottage was seldom visited. Mrs. Marshall seldom left it, but the girl mingled with the others more freely. She was quiet, but she seemed to enjoy their companionship for all her silence.

On the afternoon after the clambake, Hobart went to find the girl with an invitation to tennis. She told him her mother was sleeping, and asked him to wait till Mrs. Marshall woke from her afternoon nap. Hobart was content to sit on the veranda with the girl, while the bay lay before them, sparkling in the sun, and the distant islands reared their blue heights against the blue of the sky.

"Why did the government boat take Mr. Marks over to the monument?" the girl asked.

"He reported that lobster pot buoy with the cable on it," Hobart explained. "They came hunting for it and couldn't find it, and they wanted him to show them where it was."

She looked at him quickly. "Did he?"

Hobart shook his head. "It's gone," he said.

"Gone?" The girl's voice was full of surprise. "Why—it was there yesterday."

"It's gone today," he repeated.

"You mean—some one's taken it."

He looked up at her. "It didn't go by itself."

There was a significant hint in his voice, and she puzzled over this for a moment, then asked: "You think—what do you think?"

"What do you think?" he parried.

"Why—I should think some one didn't want it to be found—and—took it away."

"I think so too."

She studied him. "You—believe it had something to do with the submarines, don't you?"

"Yes."

The girl remained silent; and he waited for a moment, and when she did not speak again, he asked: "What do you think of Eben Scour?"

She seemed perplexed. "Just—how do you mean?"

"Do you think he's—honest?"

She gave a little exclamation. "I've been—sorry for him," she said.

He looked up at her. "Do you want me to tell you something?"

"Yes."

He rose and sat on the veranda rail, leaning toward her. "Scour hurried away uptown yesterday afternoon when we got back," he said. "I followed him."

"Why?"

"I—don't trust him."

Her eyes widened thoughtfully; and he went on: "I followed him—without his knowing it. He went into the Hooper house—stayed there till dusk."

He paused; and she asked: "Who—are the Hoopers?"

"They're all right. I asked Bill Marks today. He's known them for years."

"Then—I don't see—"

"He came out of there, and went to the postoffice, and sent a registered letter," he said solemnly.

She laughed suddenly. "Why—you're awfully funny," she told him. "You talk as thou that were—a crime. I sent a registered letter myself—only two days ago. And it was a perfectly innocent matter of a dressmaker."

Hobart flushed. "Don't laugh at me," he begged. "I may be all wrong—but it does no harm to—watch. Besides, there is more."

"I won't laugh again," she promised contritely. "Go on."

"He bought a canoe," Hobart told her.

She nodded. "I saw it on the beach. I hope he asks me to ride in it."

Hobart's face twisted. He bought it, and started out in it—toward the monument."

The girl sobered; he saw that she was listening.

"I got a motor-boat and followed him—without his knowing it. He went to the monument, then to the bell-buoy. That lobster pot was between them."

"You mean—you think he took it."

"Yes, I do," he said stubbornly.

She smiled a little. "But it was so heavy. He couldn't have lifted it—in a canoe."

Hobart shook his head. "He didn't need to. He could just cut the line, and set the wooden buoy adrift, and there would be no finding the—other."

"Wouldn't the keg float?"

"No—the cable held it under. It was just to help lift the weight of the cable."

She frowned thoughtfuly. "Perhaps," she agreed. "Still—you didn't see him do it. Some one else might have been out there. There was all night to do it in."

"Some one else might have been," he agreed. "But—he was. And I don't like the way he is acting."

"Why—is there anything else?" she asked.

He looked at her quickly. "Yes," he said. "You remember the night of the bonfire."

"We weren't here."

"Neither was he. But we all saw the bug-light acting queerly. Something was interrupting the flashes—in such a way that the interruptions were like dots and dashes in the Morse code."

The girl turned suddenly deadly white, and her hand fumbled swiftly with the arm of her chair. "The Morse code?" she echoed faintly.

"Yes. I've studied wireless—some. I caught it."

"Did you—read the message?"

"Just the end of it. A jumble of letters." He leaned toward her. "You look—frightened."

She laughed faintly. "I am frightened. It—I don't like to think of the war touching us here. The bay is so—beautiful; so quiet and peaceful."

"They're sure to bring the war over here before they are thru."

She frowned helplessly. "Why? I wish they wouldn't."

He looked swiftly about them. "The National Army is to go to France this summer, you know. Their submarines will try to sink the transports. You remember they attacked the first division—last year."

"But that was—out at sea."

"They may try to strike nearer home this time."

The girl shuddered. He saw her fist clench upon her chair. "I can't bear to think of—sinking a ship full of helpless men," she said faintly.

He nodded. "They'll have their troubles."

"I—didn't know when the army was to go."

"No one does. But—I've a friend at one of the camps. He says they've been ordered to prepare to move at a day's notice."

She shrank a little. "To France?"

"They'll go to the port of emharkation first—probably stay there for some days."

"So as to baffle—spies."

"Yes. Then—sail out some night, and no one will know it till the morning—seeing the ships gone."

Her eyes were shadowy and thoughtful. "And then—their mothers and sisters and wives will know nothing of them—unless they die."

"They'll be 'somewhere in France,'" he agreed; and pounded with his fist lightly on the railing. She saw the gesture, asked softly:

"You—would like to go?"

"I tried," he told her. "They wouldn't have me."

"Why not?" She eyed his fine body wonderingly; and he laughed a scornful little laugh.

"Athletic heart," he said.

"What is that?"

"They told me my heart had been overworked—that I could not stand the training—the life."

"You—have to take care of your mother and sister. They must be glad you cannot go."

He shook his head. "We—they've an income. They do not need me."

The girl fell silent, and the man stared moodily out across the water. A gull swung down the beach in the endless patrol; and fifty yards below them passed over the spot where some one had been cleaning a mess of flounders caught that morning. The gull circled, descending lower and lower, wary and alert. The girl nodded toward it.

"Another one will see it circling, and come in a moment," she said.

Hobart pointed far across the bay. "There it comes now." And they both saw the second gull winging slowly toward its circling mate.

"There's another, and another," the girl whispered; and within sixty seconds there were half a dozen of the birds wheeling and circling above the beach. One bold one lighted on a rock at the edge of the creeping tide and stood there, watchful. Another chose a second rock. Then the first comer swooped down upon the fragments of fish, and shrieked, and flapped away across the water with something gripped in its beak.

The girl had leaned forward to watch the birds, exclaiming with delight at the graceful beauty of them as they poised their wings for a moment after lighting on the water. Hobart turned to look at her, and his heart leaped. Her dark hair shading her face, her deep eyes, her parted lips were very beautiful; and he gripped the railing of the veranda and his breath came fast.

"They're beautiful, aren't they?" she whispered.

He leaned swiftly toward her, and at his sudden movement, all the gulls took flight, squawking and shrieking raucously. She cried:

"You've frightened them!"

"Anne," he exclaimed huskily.

"But they're coming back already. Don't move again—will you?"

"Anne," he repeated.

"You'll frighten them away, Mr. Hobart."

"Anne," he whispered, for the third time. The girl would not look at him; she rose swiftly, and moved a little away from him along the veranda. He followed her. "Anne," he faltered. "I—"

She pointed up where a fishhawk poised above the gulls.

"See," she cried. "I saw him dive for a fish the other day."

Hobart dropped his hands helplessly at his sides, stood waiting; and the girl's swift tongue blocked any word he might have spoken. He fretted behind this wordy barricade, broke thru at length, stepped toward her, caught her hands.

"Anne," he whispered. "You've got to let me say it."

She had been uneasy, restless, striving to avert the crisis; but when she saw it must be faced, she became calm again. She turned to meet his eyes, and held them steadily.

"You may say—anything you wish," she told him.

"And the answer—"

"I—you must take the answer as it comes. I make no promises—but—if I were you—I would not say what is in your heart to say."

Something cold weighed in his breast, but he shook his head as tho a cobweb had struck across his face. "I've got to," he cried. "I love you."

She flushed faintly, made no move to speak.

"I love you," he repeated. "I want you to marry me, Anne."

"Is that what you wished to say?" she asked steadily.

"Yes."

"I do not mean to—be cruel," she told him. "But—I will not marry you."

His lips moved as tho he would have spoken, but no word came. "We will be better friends," she told him. "If I am—frank. I will never marry you. I do not love you. I will never love you."

He dropped her hands limply, and she rubbed them together with a nervous little gesture, and looked away from him at last, out over the bay. He turned away, walked away from her the length of the veranda.

A low word from her made him turn, and he saw that she was looking down the beach to where Eben Scour was setting his canoe in the water. Hobart stepped toward her. Eben looked that way, and the girl waved her hand to him. Eben called:

"Will you—come and try it out with me?"

She nodded, turned swiftly toward the steps. Hobart touched her arm.

"Our—tennis?" he pleaded.

Her eyes flashed at him, smiling not unkindly. "Another time."

He flushed angrily. "Your mother is—still sleeping."

"I think I hear her moving around inside," she told him lightly, and ran down the beach toward Eben Scour. Hobart watched her go, his lip caught between his teeth, his eyes narrowing.

This story will be continued in our next issue. If you have enjoyed reading it why not pass it along to one of your neighbors or friends. Owing to conservation of paper, good reading matter this winter will be scarce and high in price. So pass it along.

Met Sitting Bull's Grandson

In your issue of September 1st the Wyoming woman sheep rancher article written by White Eagle caused me to recall an episode that came to my observation near White Eagle, Oklahoma, 1899. I was at the Ponca City depot—Santa Fe—to meet my daughter from the north. The trains were to pass there but the southbound was two hours late. The northbound pulled up to the station and two tall Indians came to the car step, embraced each other, kissed and goodbye tears rolling down each cheek. One boarded the train, the other remained. I was sitting in the waiting room. When the Indian asked the agent to buy a ticket to White Eagle, five miles away, the agent told him it cost 15 cents. In broken English the Indian said "Me got only dime, just one dime."

"Then I can't sell ticket."

Whereupon a traveling man stepped up and said, "Here, agent, is your 15 cents, give him a ticket." Then he addressed the Indian and said:: "Are you Ponca Indian?"

"Oh, no, I'm Sioux."

"No no," says the traveling man. "You're no Sioux."

"Oh yes, you bet I'm Sioux." Whereupon the fellow looked at me and says, "I'll see if he's Sioux," and addressed the Indian in that language. Turning to me he said, "By George! He is Sioux, all right."

The white man asked in English, "Then, if you are Sioux, what the dickens are you doing down here?"

"I come to say goodbye to my brudder. Him go in train just now to Omaha. Him liven not far from Omaha. I'm married to Ponca woman. I live from White Eagle two miles dis way (pointing east). My name Smith."

"Do you know Sitting Bull?"

"O yes, him my fader."

"No, he's not your father," said the white man.

"Oh yes, him my fader—my fader's fader."

"Oh, you mean your grandfather."

"Yes, das what I say. My fader's fader."

The traveling man, turning to me, says, "By George, don't that get you?" Then turning to the Indian said he, "Do you know Nancy?"

"Oh yes, my sister."

"Where is she?"

"She's livin down in Cheyenne country."

"She's separated from her husband, isn't she?"

"Yeah. Marry odder fellow."

"Where was you when Bill and Nancy were in the Wild West business?"

"I am dere too. Right dere."

Then he said to me, "By Jove, don't that beat the deuce!"

"When the boat capsized down in Red river, where was you?"

"I'm right dere."

"When I swam to shore with Nancy, do you remember that?"

"Yeas, yeas, I swim to shore with little Charlie. O, yes, I'm right dere."

Then to me, "Well, don't that beat all! Here we are. Traveled all over Europe with Bill and his Wild West show together and no mistake about it and then to meet under such circumstances as this!"

Then the Sioux says, "What you doin' here?"

"I'm traveling out of Kansas City for a wholesale house. I go from here to Guthrie, Oklahoma City, and on down the line on this train now soon."

The Sioux says: "Stop off at White Eagle when you come back, visit me, stay long time. I treat you white. I treat you right."

"All right, I will, and here's the train."

Singular as all this may seem to you—it's real, and the crux of it all is the true affection shown by these Indian brothers, as well as the kindly feeling toward an Indian by a man whose life had partly been spent with noted Indian characters, and the coincidence of their meeting each other after years of separation that had made them scarcely able to recognize each other as ever having been around the world together.—Warren Davis, Twin Butte Ranch, Shawnee, Wyo.

To the names of the illustrious generals of today, history will justly add, General Housewife.

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

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FOR SALE—REGISTERED POLLED DURHAMS and Shorthorn breeding cattle. Write John Reid, Sterling, Colo.

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REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin, Owner.

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KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies: develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

What the Editor Saw at the Colorado State Fair

(Continued from Page 21)

Boar, 2 years or over: Blue Ribbon Livestock Co., first; J. O. D. Ranch Co., second and third.

Boar, over 18 months, under 24: Blue Ribbon Livestock Co.

Boar, over 12 months, under 18: Caldwell Martin, first; J. W. Brauer, second; Wilson and Artt Bros., third.

Boar, over 6 months, under 12: E. D. Hardman, first; Judson Soloman, second; Blue Ribbon Livestock Co., third.

Boar, under 6 months: Blue Ribbon Livestock Co., first and second; Caldwell Martin, third.

Sow, 2 years or over: Caldwell Martin, first; J. O. D. Ranch Co., second; Garmesa Farms, third.

Sow, over 18 months, under 24: J. O. D. Ranch Co., first; Caldwell Martin, second; Blue Ribbon Livestock Co., third.

Sow, over 12 months, under 18: Caldwell Martin, first and second; Blue Ribbon Livestock Co., third.

Sow, over 6 months: Caldwell Martin, first; Blue Ribbon Livestock Co., second; J. W. Brauer, third.

Champion Boars and Sows

Boar, 1 yr. or over: Caldwell Martin, first; Blue Ribbon Livestock Co., second.

Boar, under 1 year: Blue Ribbon Livestock Co., first and second.

Sow, 1 year or over: Caldwell Martin, first; J. O. D. Ranch, second.

Sow, under 1 year: J. W. Brauer, first; Blue Ribbon Livestock Co., second.

BLUE RIBBON HERD

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Cherry Chief of Edgemoor, the Grand Champion at the last Denver Show, was again made Grand Champion Boar of the Colorado State Fair. His little sister, Chiefs Cherry Queen 3rd, was also Grand Champion Sow at the State Fair.

Our herd has the Champion Boar of the West and the greatest lot of prize winning sows in the State.

We are offering for sale Rex Chief 4th, a choice April, 1918, boar, a half brother to the Grand Champion Boar and Grand Champion Sow at the State Fair. Also an outstanding 3-year-old boar, Col. Defender 23rd, a prize winner at the last two National Western Stock Shows and a proven sire. This boar is a grandson of Defender. Also have for sale a few choice boar pigs sired by Champion Cherry Chief of Edgemoor. No bred sows or spring gilts for sale.

Come to Edgemoor Farm when looking for the best to be had in Durocs. We can please you.

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In Durocs, I have a couple of fine fall boars, sired by a son of Grand Model, at low prices.

Can spare a bred yearling sow and a few spring boars and gilts.

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First prize under year boar at Colorado State Fair, 1918, heads my herd of Durocs. Three gilts and a boar won fourth money in the state futurity litter in class with fourteen herds. These gilts will be bred to this great boar and priced reasonable. Will also sell futurity board from same litter at a bargain, since I cannot use him in my herd. They are giants in size and possess the leading blood lines on both sides. Write for description and prices.

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New Idea and Nisco Spreader

Founder of the New Idea Spreader Company

About 18 years ago when the mails brought to Joseph Oppenheim the patent papers covering his wide-spreading distributor, he sat for a while in deep thought. When asked what was on his mind, he said:

"I am sorry that a patent is good for only 17 years. It will take at least 15 years to educate the people to the wide-spreading machine, and within two years after these patents expire, competition will be imitating and copying."

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The New Idea Spreader Company is a partnership owned entirely by Joseph Oppenheim's six children, who pride themselves on putting into every machine they make, the quality and the service which was their father's ideal.

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"An imitation---be it ever so good---is still an imitation."

The growth of our business testifies that the majority of farmers realize this and prefer the original. They want the machine that Joseph Oppenheim invented, and which his family is building at present in immense quantities.

The Nisco Spreader gives you not only all the advantages enumerated above, but it has another very strong feature in its favor, and that is, the machine is built to last. It takes years to wear one out, and we guarantee it for a year against breakage from any cause. Tens of thousands of "Niscos" have been sold all over the country. Some of them sold years ago are still rendering faithful service, while many an imitation has gone to the scrap heap of forgotten things.

Let us send you our catalog which will give you full details. Better still, go to the nearest Nisco dealer and let him show you the machine. If you don't know who he is, or there is none close by, write to us or the nearest branch listed below, and we will see that you get full information promptly.

At the same time, we will be glad to see that you get a copy of our book entitled, "Helping Mother Nature," which has a wealth of information about manure not usually published. It won't cost you a cent.

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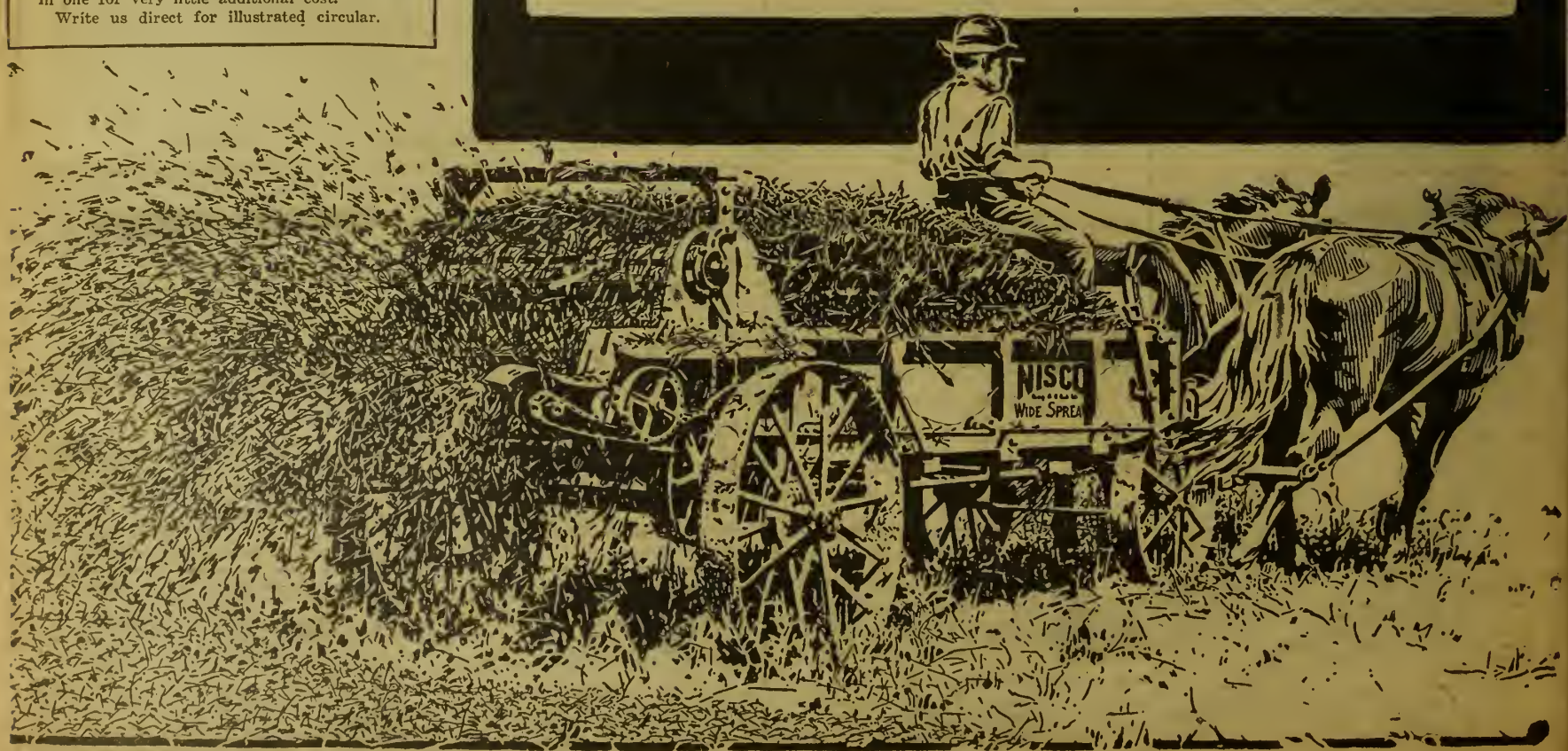

NOV 11 1918

WESTERN FarmLife

Vol. XX Denver, Colorado, November 1, 1918 Semi-Monthly

A Modern Reminder of the Departed Glory of the Western Cow Town

This scene is in Castle Rock, Colo., one of the old cow towns of the Eastern Slope. It shows a bunch of long-horned Texas steers, shipped in from the drouth area as they were driven thru the streets of the town, bringing back memories of the days when the cow puncher had the right of way.

WHERE have gone those trails historic, where the herders sought the mart?
Where have gone the saucy cowtowns, where the gunman played his part?
Where has gone the Cattle Kingdom, with its armed, heroic strife?
Each has vanished like a bubble that has lived its little life.
Oh, the spurs we set a-jingling.
And the blood that went a-tingling
When we rode forth in the morning, chaps-clad knights in cavalcade;
And the mem'ries that come trooping
And the spirits sad and drooping,
When the cowman looks about him at the havoc Time had made.

(From The Cow Puncher's Elegy, by Arthur Chapman, author of Out Where the West Begins, and other poems alive with the zest of the frontier.)

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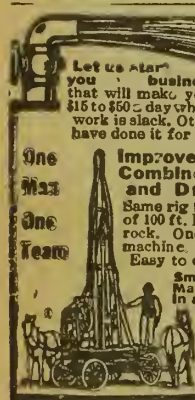

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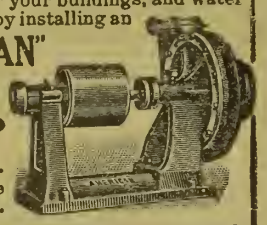

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THE R. HARDESTY MFG. CO.
1827 Market Street DENVER, COLO.

Herefords Win Their Way

John E. Painter in The Breeders' Gazette.

The most economical production of meat possible must appeal to anyone at all familiar with existing and future conditions in our country. The absolute necessity of this program was becoming apparent before the war, but now is doubly accentuated when one considers that many of the concentrates we have been giving our cattle in the past are needed to supply the needs of our own people, both civilians and soldiers; in addition to which it is imperative that a large part of our production go over to our allies. The Hereford is the animal of the hour. It can make the most pounds of beef in the shortest time off grass, alfalfa, silage, beet pulp, cottonseed cake and the available feeds to substitute so far as possible for corn, and these rations are much more readily accessible than corn in many parts of the West.

I see no occasion at present to array one breed of cattle against another. Breeders naturally have their preferences, and there is room for all, except one; that is the scrub, this unpatriotic, unprofitable animal that consumes much valuable feed and does not pay its bill; and, by the way, scrubs are not limited to the West.

In addition to the superior rustling and grazing abilities of the Hereford, it is less susceptible than other breeds to the ordinary cattle diseases, with the possible exception of blackleg, and Dr. Franklin's discovery of the germ-free vaccine bids fair to eradicate this disease, which kills more cattle than any other one cause.

For crossing and grading up inferior southwestern cattle, the Hereford is without apeer, his blocky, wide-built body, short legs, strong constitution, and thick-meating qualities being the essentials needed to improve the high-standing, narrow-gauge, high-flanked native of the southwest. A comparison of the native Panhandle cattle (which are nearly all grade Herefords) of today with those found there twenty-five years ago, or even fifteen years ago, forms a much stronger and more permanent boost for Herefords than any newspaper article, any beautifully-illustrated catalog, or any high-averaging sale.

Bone and scale are two of the requisites of western breeders. The beautifully-finished, smooth, thick-meated type popular in the show ring is attractive, and its early-maturing qualities are desirable. The western Hereford breeder today must keep this type distinctly before his eyes, while breeding in the scale and bone. We must forge right ahead; we cannot afford to sacrifice any one of these three qualities—type, scale, bone.

I glory in the loyalty and patriotism of cattlemen and farmers. Each one is straining every nerve to raise the last beast he can to help feed our brave boys in khaki and our allies. Unfortunately free grass is practically gone—the only place where the scrub was possibly excusable—so let him go, too. The homesteader's plow, the 640-acre homestead and the demoralization of the grasses on the few remaining open ranges, and even in many of our pastures, all present obstacles to increasing the number of either cattle or sheep. Rather must we reduce our herds to fit our available feed supplies. As a matter of necessity, better cattle, and better care must be the slogan. Earlier maturity, and the best results from the feed consumed must be studied. Tie to the improved, up-to-date Hereford and give him a show. He will not disappoint you.

Winter Packing of Bees

For the successful wintering of bees proper stores are essential, but good hives and thoro packing as protection from the elements are also necessary. A colony properly protected will winter with a much larger force of workers and really consume less stores than a colony unprotected. While considering feeding, therefore, also consider giving all colonies protection from the elements.

The bee specialists of the United States Department of Agriculture advise packing stands in units of fours. Two face west and two east. The packing case consists of a movable bottom, sides and cover. The stands are raised upon two-by-fours, allowing for four inches of packing beneath. Six inches of packing is given on all sides and eight inches on the top. Dry leaves, sawdust, fine excelsior or broken and packed straw may be used. The cover and sides should be made waterproof. Each colony is wintered in two hive bodies the second one being placed on as a super. An exit is provided so that on warm days the bees can take flights and so that necessary ventilation may be had. Bees do not hibernate, but keep up a certain amount of activity all winter. They consume stores in order to produce sufficient heat to keep the cluster from freezing, so do not neglect to help them conserve food by giving them the best winter protection possible. Write to the U. S. Department of Agriculture for Farmers' Bulletin No. 695 for further information on preparing bees for the winter.

Nothing is as usual; why eat as usual?

Unarmed Arms of the Service

Men from the battle front who have been holding the line for months and years complain of the monotony of war. The soldier's life in the trenches soon ceases to be a novelty and becomes a tedious routine.

The morale of the army is of supreme importance and the greatest military authorities of the world are enthusiastic in their praise of the organizations which make it their business to keep the soldier in good spirits.

This work, like that of the Signal Corps, has been more highly developed in this war than ever before. Huts for amusement, comfort and recuperation of the fighting men are in the trenches as well as behind the lines. The unarmed workers go about their duties under shell fire as coolly and as self-forgetfully as the telephone men of the Signal Corps who are frequently their neighbors, and who keep intact, often under a hail of bullets, the indispensable lines of communication.

It is for us who remain at home to support these unarmed heroes to the utmost, with our gifts, our labor, and our unbreakable morale.

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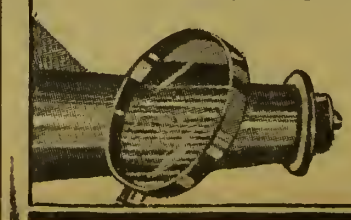

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WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, NOVEMBER 1, 1918 | Number 21

War Work of the Morgan County Boys and Girls

PRACTICAL TRAINING OF YOUNG FARMERS AND HOUSEKEEPERS

ALVIN T. STEINEL

BY their fruits ye shall know them."

This biblical quotation applies as well to boys and girls' club work as to any other activity, political, religious, industrial, or agricultural. Morgan county, Colorado, recently had opportunity to see the fruits of labor in the vineyard of club organization as evidenced by an excellent showing of products raised during the past season by club members of school district No. 3. The exhibition, however, was not the only evidence of the fact that results were being attained. Just a few instances will be recited to show that agricultural clubs serve to direct the thought of boys and girls back to the farm.

Get acquainted with Raymond Moore, age 16, a Ft. Morgan high school boy, who during the past summer grew 1½ acres of potatoes, 1 acre of onions, raised a sow and 10 pigs and helped his sister, who is also a club member, with the garden. Incidentally Raymond kept up his studies during the spring and is taking them up again this fall. But that is not all. The record of his summer activities is not confined to the work he did on club projects. In addition he was the general overseer on his father's 43-acre irrigated farm. I asked him what he intended to do next year in the way of club work.

"Well, I took care of the whole place this year," he said, "so I have decided to rent the farm from dad, paying him just what any other renter would pay and farming it myself."

Raymond's father is a physician (retired), but still has a good deal of "running around" to do and has other lands also to look after. He is willing

Roy L. Moore, Range Cattle Raiser

to turn the farm over to the boy, as he realizes that Raymond is a mighty good farmer. His pigs are Duroc Jerseys and he handles them in approved fashion, having vaccinated them against cholera. They are fed barley and oats and have the run of an alfalfa pasture.

Then there is Lelia De Hann, a high school girl who took care of her father's potato crop amounting to 10 acres, from planting time until harvest. She did a great deal of the actual work of planting, cultivating, irrigating and helped with the digging this fall. This work not only served as her part of club activities, but she received credits in her high school course for actual farm labor performed and is just that much nearer to a diploma in a high school that aims to give a four-year course in agriculture.

A Message From the Originator of Club Work

Carlinville, Ills., Sept. 16, 1918.

My dear Mr. Steinel:

I remember so well the great work you did in Illinois and adjoining states and now I see that you are hitched up with Colorado. I went to Rocky Ford one fall and attended the big melon day. They had melons stacked up like alfalfa ricks. I remember that I got on the outside of two big ones myself. While I was out there I met a good many Farmer Boys, face to face, who had been reading my little paper for a number of years. I found the boys of Colorado a fine crowd. They would make good pals for the boys of Illinois and you know I think Illinois boys are the best ever. I wish, if you get an opportunity, you would give the boys of Morgan county and all the other counties that you meet, my love and tell them that I wish I could meet them somewhere out on the plains of Colorado, face to face.

There was a young Farmer Boy in my office last night, six feet in his stockings, eighteen years old, healthy, strong and splendid, but discouraged because he didn't have any money and claimed that a boy without money was greatly handicapped in the game of life. I assured him that I had a friend by the name of John D. Rockefeller who would be very glad to exchange a couple of millions for his youth. Mr. Rockefeller has been to Florida and to Italy and to Colorado looking for a big appetite, looking for youth and health and this boy was chock full of both. He had good eyes, good hearing, big, strong stomach, everything—and John D. would like to have it. I think I made my young friend see the point and sent him away full of pep and energy and determination and grit and gumption and right down good common horse sense.

Tell the boys that it isn't money that makes opportunity, that one's success lies within himself. As soon as he makes up his mind to succeed, to get somewhere, to be somebody, right then he is half way on the road to success. I want you to write me sometime how you are getting on in Colorado and when I come out there, I am going to hunt you up.——WILL B. OTWELL.

I met Russel Simms, who was in the sixth grade last year and is 13 years of age. He lives 30 miles south of Ft. Morgan, but distance did not keep him away from the annual club round-up. His father, R. H. Simms of Eskdale, brought the boy to town, and with them came a crated pig that attracted much attention at the exhibition. On May 20 last Russell bought two Duroc Jersey pigs from his father. They were then about three months old, one of them weighing 25 lbs., and the other 30 lbs. After four months of dry lot feeding from a self-feeder, using corn chop, barley chop, tankage and a shorts slop, one of the animals, on September 20, weighed 210 pounds and the other weighed 197 pounds. They made a gain of as high as two pounds a day at times and were ready for market by October 1. When the final figures are in it will be found that Russell Simms has made a splendid record in hog raising on a dry land farm with all feeds except tankage grown at home. And what is more, he will show a profit on his operations and will have a written record to present showing just what it has cost to produce this pork.

Don Hill, a Calf Club Boy and His Herefords

Another lad I met was Harold Anderson, 13 years of age, who is in the poultry club with a flock of nearly 400 barred rocks. He started with only 16 hens which were prolific layers, having a record of an egg a day in the height of the laying season last year. Harold was making money "hand over fist" out of his flock, as eggs were high and home raised feed was furnishing most of the ration for the hens.

The agricultural clubs of school district 3 had a membership of 197 in 1917 and this year of 249 boys and girls. The school district is an extremely large one, comprising nine townships, and including some of the richest irrigated land in the county, as well as non-irrigated uplands. All classes of farming are represented in this membership and 204 of the boys and girls entering finished their crop work. Roy J. Hale, agriculturist in charge, stated that the net profit on crops produced in 1917 was $1,000 and that this year it would be more than double.

In making this profit these boys and girls produced a great many thousand dollars' worth of food in the form of grain and root crops as well as farm animals. Their service to the nation has been noteworthy and in addition to this they are receiving practical training in agriculture which will fit them for farm and home life in the community. Four general lines of work are being followed by the clubs.

Crop production includes corn, beans, potatoes, sugar beets, and wheat, while animal husbandry includes the production of pigs, calves, sheep, poultry and rabbits. There are a few girls in the crop production division and some in animal husbandry work. The third line of activity is gardening and canning and the fourth sewing, the latter three lines being exclusively in the hands of the girls.

Every line was represented in the 150 or more exhibits shown in the gymnasium of the Morgan county high school. Most of the crops were grown in acre plots. In fact, this is true of all crops except potatoes, which are usually grown in ¼-acre plots, altho as before stated, one young lady took care of 10 acres.

There seems to be no limit to the ambition of these young people and many examples might be cited of work done far beyond that required by club rules. Some of the members were in two clubs, as for instance Quincy Baker, 10 years of age, who raised a potato crop of ¼ acre and also took care of a Jersey heifer.

The school district was fortunate in having available four acres of rented land on which sugar beets were grown

Vanetta Hanscom, Member of Canning Team

by four high school students, each of whom took care of one acre. The horse work and the implements for this were furnished free of charge by a farmer, Mr. R. A. Chace, but the four boys did all of the hand labor, which means a good deal in producing sugar beets. They secured an average yield of fair quality and learned some very valuable lessons in the cultivation and irrigation of this important crop.

Ray Moore is another of the ambitious high school boys who was not satisfied with one animal or one acre, but bought 10 head of beef steers, which he took care of on the range during the summer in line with a project for beef production from pasture grasses.

There is at present but one individual engaged in sheep raising and this happens to be Emily Ciem, a sixth

Turn to page 19

Farmers Must Determine Their Status In Draft

GOVERNMENT DOES NOT DESIRE TO HINDER CROP PRODUCTION

THE farmers of Colorado should immediately awaken to their responsibility as regards the making out of the questionnaire before local draft boards.

It is imperative that the most careful study should be given to the Selective Service Law and that great care be taken in the preparation of the answers to the questionnaire. Failure to make full answer of each question not only endangers the rights of those entitled to deferred classification, but encumbers and interferes with the work of the district boards.

Under the Selective Service regulations married men are classified under one of four general classes and those whose wives or children are mainly dependent on the farmers' labor for support come within Class IV, Div. A.

The farmer, his sons, foreman, laborers and others who work upon the farm come within one of four general classes as follows:

Class I, Div. E.—"Unskilled or not a necessary farm laborer";

Class II, Div. C.—"Necessary skilled farm laborer in necessary agricultural enterprise";

Class III, Div. J.—"Necessary assistant, associate, or hired manager of necessary agricultural enterprise";

Class IV, Div. C.—"Necessary sole managing, controlling, or directing head of necessary agricultural enterprise."

In making out the questionnaire an X should be placed in the column opposite the division that states the ground of claim or claims and in the paragraph next to the bottom of the first page the registrant, or other interested person, must state whether or not a claim is made for deferred classification and if so what classes and divisions are claimed.

The word "necessary" is thus defined by the regulations:

"The word 'necessary' as applied to any industry, or occupation, or employment, or agricultural enterprise, within the meaning of these regulations shall be taken to import that the discontinuance, the serious interruption or the materially reduced production thereof, will result in substantial material loss and detriment to the adequate and effective maintenance of the military establishment, or the effective operation of the military forces, or the maintenance of national interest during the emergency.

"A particular industry, or occupation, or employment, or agricultural enterprise, shall be found to be 'necessary' only when it is shown that it is contributing substantially and materially to the maintenance of the military establishment, or the effective operation of the military forces, or the maintenance of national interest during the emergency; and in the case of a particular agricultural enterprise, that it is producing an appreciable amount of agricultural produce over and above what is necessary for the maintenance of those living on the place."

Rule XVIII provides:

"The word 'necesary' as applied to the relation of a registrant to an industry, or occupation, or employment, or agricultural enterprise, within the meaning of any particular rule governing deferred classification in these regulations, shall be taken to import:

"(1) That the registrant is actually and completely engaged in the industry, or occupation, or employment, or agricultural enterprise, or in the capacity recited in any such rule, and that he is competent and qualified in that capacity.

"(2) That the removal of the registrant would result in direct, substantial, material loss and detriment to the effectiveness of the industry, or occupation, or employment, or agricultural enterprise.

"(3) That the available supply of persons competent in the capacity recited in the rule is such that the registrant cannot be replaced in such capacity without direct, substantial, material loss and detriment to the adequate and effective operation of the industry, or occupation, or employment, or agricultural enterprise."

In a footnote to the above rule it directed that the board shall consider generally the length of time the registrant has been engaged in such capacity and whether or not the circumstances are such as to convince the board that he is not so engaged for the primary purpose of evading military service; the nature of claims, study, training, or experience and the extent and value of his qualifications for the capacity in which he is engaged; and the conditions which would result from his removal.

SENATOR DELPH CARPENTER

"It is the nation's business to preserve all industries at the same time that it assembles an army, and only by the proper registration and classification of the citizens who come within the draft age can industries be preserved and the army properly recruited."—Senator Delph E. Carpenter of Weld county makes that statement in the accompanying article, which has been prepared for Western Farm Life, at the suggestion and advice of draft officials who are interested in seeing justice done the government and the farmer. The questionnaires for the men of 36 to 45 will soon be distributed.

No more serious mistake can be made by any citizen than to believe that peace talk can have any effect on the continued recruiting of an army to carry the war to a successful conclusion. Any slacking now is nothing short of treason. This applies to every individual and especially to the men who have registered under the Selective Service Law. Their responsibility is exactly the same as that which rested upon the men who were in the first draft. Owing to the gigantic task that confronted the government in sending an army to France it has not been possible until recently to give a comprehensive outline and definition of the selective service regulations as they relate to agriculture. This information is now available to all registrants and employing farmers, as will be seen from Senator Carpenter's article. As announced in the issue of October 15th, agricutural draft advisors have been appointed for Colorado and these men, Mr. Charles L. Hover of Boulder county, and Mr. W. D. Keen of Pueblo county, are now occupied with their duties. It is up to the registrant to post himself regarding his status. The article on this page contains information of value and points out how the farmer is to go about it to do his duty by himself and the nation.—Editor.

In Class I belong:

"Any registrant not found to be engaged in a 'necessary' agricultural enterprise, or, if found to be engaged in such an enterprise not found to be 'necessary' to the effective operation of the enterprise in any capacity recited in Rules XX, XXI, or XXII."

Class II, Rule XX, provides:

"Registrant found to be engaged in a "necessary' agricultural enterprise, and found to be 'necessary' to such enterprise in the capacity of a farm laborer especially fitted for the work in which he is engaged."

In Class III, by Rule XXI it is provided that there shall be placed

"Any registrant found to be engaged in a 'necessary' agrocultural enterprise, and found to be 'necessary' to such enterprise in the capacity of an assistant, associate, or hired manager of such particular enterprise or of a substantial and integral part thereof."

In Class IV, by Rule XXII, it is provided that there shall be placed

"Any registrant found to be engaged in a 'necessary' agricultural enterprise and found to be 'necessary' to such enterprise in the capacity of sole managing, controlling, and directing head of the enterprise."

As soon as the questionnaire is received the farmer, as well as the person to whom the questionnaire is sent, should immediately make a thoro study of all the questions contained therein, so that the registrant will not only be in a position to make full and complete answers to each of the questions, but also so that the farmer will be prepared to support the claims of the registrant by the filling out of the supporting affidavit, and in case the farmer himself receives the questionnaire in obtaining the proper supporting affidavits.

Series XII of the questionnaire covers agricultural occupations and at head of the list of questions will be found the directions for the filling out of that portion of the questionnaire as well as directions concerning the supporting affidavits. It is imperative that the supporting affidavits be made by the proper persons in order that any claims for deferred classifications may be properly considered by the district boards.

Where the registrant (the person to whom the questionnaire is directed) properly belongs in one of the deferred classes above mentioned, but by reason of false modesty or otherwise prefers not to claim deferred classification, the farmer himself may make the claim. This claim should be made the next to the last paragraph at the bottom of the first page of the questionnaire, or the farmer may procure a duplicate of the first page (Form 1001-A) and file the same with supporting proof within the seven days allowed the registrant, and if the registrant has failed to prove by his answers and supporting affidavits the facts upon the basis of which deferred classification or exemption is claimed, or has failed to submit a questionnaire, the supporting proof to be filed by the other person must embody all the facts with relation to the particular claim which was called for and required by the questionnaire and the selective service regulations.

In cases of questionnaires which have already been submitted where the registrant has not for any reason fully presented his claim, the farmer should act immediately by taking the same up with the local board and if necessary with the district board and the legal advisors thereof.

Section 80 of the rules provides that three persons to be known as "industrial advisors" shall be appointed for each district board, one by the Department of Labor, one by the Department of Agriculture and one by each district board, whose duty it is to furnish pertinent information to and generally assist the district boards, and such advisors have power to file claim for deferred classification in agricultural and industrial industries and occupations. Upon the filing of a claim by the legal advisor the district board immediately forwards the claim to the local board having jurisdiction and the local board thereupon certifies the questionnaire and the record to the district board for consideration, altho no claim by or in respect to the registrant for deferred classification has been made, or such registrant has waived deferred classification, provided the day and hour fixed to report for military duty has not arrived. If the information and affidavits necessary for the classification of the registrant, because of his engagement in the agricultural enterprise, are not contained in the questionnaire of the registrant it is the duty of the local board to give an opportunity, by reasonable extension of time to those interested in obtaining a deferred classification, to furnish the information and supply the affidavits required by the questionnaire and the regulations.

The government of the United States does not wish that any registrant shall be improperly classified and every effort is being made to place each of the individuals included within the draft in the exact position which he properly occupies. No farmer should lend his support to any attempt to evade the duty imposed upon every American citizen. While it is the duty of each of us to see that the law is not evaded it is just as much our duty to see that the law is complied with in every regard. It is the nation's business to preserve all industries at the same time that it assembles an army and only by the proper registration and classification of the citizens who come within the draft age can industries be preserved and the army properly recruited.

The larger industries of the country, which employ large numbers of men, are devoting their best skill and energy to the correct classification of each of the men in their employ. The best legal and other talent in the country is availed of by these industrial institutions in assisting the employes in obtaining correct classifications.

The farmers of the country have not well organized bureaux or legal departments to which all the details of filling out the questionnaire may be referred. Each farm is a complete agricultural enterprise within itself and the farmer stands in the same position as does the head of an industrial enterprise and it is just as much his duty to see his sons and hired men properly classified as it is the duty of the head of an industrial enterprise to properly classify his employes.

In each of the districts the members of the legal profession and many other competent persons are giving their services without remuneration to aid registrants who cannot obtain proper aid from other sources. These men have responded generously and are patriotically performing this duty without charge, but these volunteer advisors are overcrowded with work and their personal business and the business of their clients is in many cases being grievously neglected by reason of their volunteer and free aid to registrants. I accordingly urge that each farmer take it upon himself to see to it that the questionnaire received by himself and members of his family or his employes, is carefully filled out by his personal attorney or some other competent person whom he has a right to call upon for aid and that he should avoid, insofar as possible, overburdening the volunteer assistants of the local boards. The registrant will not only be enabled to make true and complete answers to each question, but endless trouble for the local and district boards, as well as the registrant, will be avoided. Do not neglect your duty at this time. Make it your business, more imperative than any other business you have, to see to the filling out of the questionnaire, the supporting affidavits and the making of claims for deferred classification wherever proper.

From a Patriotic Farmer

I was particularly pleased with Farmer Putnam's article in Western Farm Life, dated October 1st, in regard to farm labor. He struck the keynote to the food producing problem. Few people, especially those who are not farming, realize what a serious matter this is getting to be. If our armies are to be fed until this war is won, the farmer must have help and that soon; from everywhere comes the complaint of farm labor shortage, and if a remedy is not found before cropping time next season the situation will be very serious. Farmer Putnam's suggestions are first class; the subject should be given wide publicity by the press and appeals made to the administration to in some way help the farmer out of his dilemma.

I am a farmer here since in the eighties. At present am running a 400-acre farm. I have succeeded in securing my crop up to date, that is, have my hay in stack, and grain in shock, approximately 100 acres. The thresher is in the community. I have no help to send to help my neighbors that I may get help in return. I must go myself to do a hard day's work at the machine and then to ride as much three miles home at night and do chores is some stunt for a man sixty years old. I have had about half enough help during the season, and have paid three and four dollars a day and board, while my boy is at the front in France serving Uncle Sam at sergeant's wages. Would be willing now to pay any price for good help if i could get it, but it simply is not here. My neighbors are in about the same fix that I am. We are perfectly able financially to lay down till such time as we can get help, but this would not help win the war. We must do what we can, but how will we make our farms produce to the limit unless we get help? It seems to me, as Mr. Putnam intimates, laws must be enacted to force men to help the farmer produce more food and fix the wages according to what they earn.—C. C., Routt county, Colo.

Colorado's Yearly Loss by Weeds Over $4,000,000

CUT CROP YIELDS BY STEALING MOISTURE AND PLANT FOOD

W. W. ROBBINS
BOTANIST, COLORADO STATE EXPERIMENT STATION

IN 1917, there were 4,073,250 acres of cultivated land in Colorado. Altho it is difficult to arrive at an accurate estimate, it is safe to say that the loss from weeds amounted to one dollar an acre. This is probably an under-estimate. Careful surveys by the Office of Farm Management, United States Department of Agriculture, have led to the conclusion that the yield of corn in the country is reduced 10 per cent by weeds; spring grain 12 to 15 per cent, and potatoes 6 to 10 per cent.

The financial loss due to weeds in reality amounts to a large percentage of the total value of our crops. Weeds rank well toward the top among the chief causes of waste in our agriculture. We are so accustomed to weeds that we take it all for granted that they are things we must have. In fact, a weedy farm is regarded as the normal condition. We fight weeds, but often with little thot that it is possible to eradicate them. And yet there are farms practically without weeds and many hundreds of fields in which weeds are of no concern at all; and furthermore, it has been shown many, many times that our worst weeds, even when well-established, may be practically eliminated. Weedy farms, worthless in their infested condition, have been reclaimed thru the use of proper methods and the perserverance of an American farmer.

The losses caused by weeds fall into two chief classes: (1) Losses brot about by a decrease in yield. (2) Losses brot about by an increase in the labor cost of growing the crop.

Weeds rob our cultivated plants of soil nutriment. Weeds, as a rule, are vigorous growers and their demands for food are great. Alfalfa and flax dodders are parasites. They penetrate their host plants and absorb nourishment from them directly.

Weeds rob our cultivated plants of water. In our western states where water is such an important factor in crop growth, and especially on non-irrigated lands, weeds do their greatest injury in using up the much-needed soil moisture.

The water requirement of many common crop plants and weeds has been determined by very careful experimentation. By the water requirement of a plant is meant the number of pounds of water that must pass thru the plant to produce one pound of dry matter. The following table is extracted from a U. S. Dept. of Agriculture publication:

Plant	*Water Requirement
Proso millet	293
Kurch millet	261
Feterita	323
Corn	368
Wheat	513
Barley	534
Oats	597
Sweet clover	770
lfalfa	831
Pigweed	287
Russian thistle	336
Gumweed	608
Sunflower	683
Lamb's quarters	801
Ragweed	948

(*Number of pounds of water that must pass thru plant to produce one pound of dry matter.)

It will be seen from this table that the sunflower plant requires almost twice as much water as corn to produce the same amount of dry matter; the water required for ragweed is about three times that of millet; and of lamb's quarters fully twice as much as feterita. This study of the relative water requirement of plants emphasizes the injury that weeds bring to our crops thru their great demand upon soil moisture. In fact, the main benefit derived from cultivating corn and other crops is in the removal of weeds which compete with them for soil moisture.

Weeds crowd out and shade crop plants, and thus prevent them from carrying on properly the work of food making. They may even prevent seedlings from getting a start. Moreover, shading may often favor the attacks of fungous pests.

Weeds Harbor Insects

Weeds harbor insects and fungous pests. These insects and fungi spread from the weeds to neighboring cultivated plants. Clean culture about roadsides, fence rows and ditch banks is strongly recommended to prevent the spread of insect pests. Insects deposit their eggs upon the weeds, and when the larvae hatch they migrate into the fields. Insects often go into hibernation somewhere near their native food plants, many of which are weeds, and from them they scatter to adjoining fields of cultivated plants. Insect pests gradually become thicker and thicker, and native plants being insufficient for their food supply, they move to adjacent fields of cultivated plants.

For example, the beet webworm prefers lamb's quarters, Russian thistle and Atriplex rather than sugar beets as plants upon which to deposit their eggs. Fields infested with or bordered by these weeds attract the moths, and when these plants are exhausted by the larvae, they move to nearby beets. It is worthy of note that lamb's quarters, Russian thistle and Atriplex belong to the same plant family as does the sugar beet. The banded flea beetle causes the most injury in fields containing fireweed or poverty weed and in these parts of the beet field where this weed is most abundant. White grub does the most injury in those fields foul with grass. They lay their eggs in natural sod ground. Grasshoppers are always worse next to ditch banks and roadsides, fence rows and other waste land, overgrown with weeds and grass. Grasshoppers rarely lay their eggs in cultivated fields, but select the native haunts in preference. Potato bugs flourish on green-berried nightshade and buffalo bur. False chinchbug, which does great injury to beet seed, breeds and feeds during the early part of the season on shepherd's purse and other wild mustards It moves later to young commercial beets and to seed-beet plants. Wild mustards are early-maturing, consequently the bugs migrate to other food plants nearby.

It is now well established that the fungus causing stem rust of wheat is harbored by certain grasses such as wild barley and that it may spread from wild barley and other grasses to wheat. Certain wild mustards may serve as a host for the fungus causing "club-root" in cabbage.

Retard the Work of Harvesting

Weeds retard the work of harvesting grain by increasing the pull for the horses and cause an extra wear and tear on machinery. Witness the injury of this kind brot about by a heavy stand of sunflowers in a grain field. Dodder may so mat alfalfa plants together as to make harvesting extremely difficult. Weeds increase the labor of threshing, and make an added cost in cleaning the seed.

One of the most serious losses occasioned by weeds in fields results from the infestation of the grain or seed crop. The methods of estimating dockage at the elevators is now uniform. A sample of wheat is passed thru the "kicker" and over a set of standard sieves, and the weed seeds, chaff, smut balls, etc., weighed, and the percentage of dockage determined. The average dockage for wheat at the elevators in the western states amounts to about 2 per cent. A large percentage of this dockage is wild oats, sunflower and other weed seeds.

In 1917, Colorado had 659,918 acres in wheat yielding a total of 13,643,061 bushels. The average dockage per bushel was about 1.2 pounds, making a total dockage for the state of 16,371,673 pounds. Colorado farmers in 1917 hauled 8,186 tons of weed seeds, chaff and other inert matter to the mill in their wheat. And, of course, they were docked for this unclean wheat, and rightly so.

Add to these losses, those due to weed seeds in oats, rye, barley, alfalfa,

(Turn to Page 12)

Killing the Animal Huns on the Wyoming Range

HOW BIOLOGICAL SURVEY IS HELPING THE LIVESTOCK INDUSTRY

PAN, patron of the hunter, probably would applaud the annual kill of representatives of the United States Department of Agriculture who are waging persistent warfare on predatory animals if the ancient god lived in this age. With the same zest as that displayed by the people of Pan's period, the modern huntsmen of the Department's Bureau of Biological Survey are avenging the depredations of vagrant and prowling animals which are inimical to flocks, herds, and systems of livestock husbandry in the Western states. Predatory animals, such as wolves, coyotes, mountain lions, and bears which prey on livestock are being hunted assiduously by these Federal forces.

During last May a Wyoming stockman lost 100 head of sheep and seven colts, while his neighbor lost 50 sheep which were killed by two male wolves. A Biological Survey hunter took the trail after the marauders and followed the pair until he was able finally to kill them. Another bureau trapper accounted for a pair of marauding wolves near Mosquito Lake, Wyoming, which were credited with killing $4,000 worth of livestock a year. A third government hunter recently killed a pair of old wolves which destroyed about $3,500 worth of farm stock a season. In the same locality, an old white wolf which killed 30 head of cattle last spring also fell victim to the trapping skill of one of Uncle Sam's hunters.

In the region of the Rio Grande the "Texas Ranger" is venerated and respected on account of his courage and bravery. The Biological Survey hunters are winning similar spurs among the stockmen of the Western states. Thruout the year requests for the services of hunters are received from stockmen. Reported cases of depredations by predatory animals are investigated as soon as possible, and hunters are placed in the district if conditions warrant such action.

It took one of Uncle Sam's expert trappers five weeks to rid the Wind Cave National Park of coyotes which killed 13 of the antelope in that preserve. Another hunter finally captured an old coyote which was responsible for the death of $75 worth of sheep in a single week. Shortly after, this nimrod also caught the animal's mate, a notorious stock killer.

In the neighborhood of Yellowstone Park wolves, mountain lions, coyotes, and bears kill much game each year, altho the government representatives are gradually checking such activities. Recently one of the hunters bagged two old wolves, seven mountain lions, and a huge grizzly bear, the largest of its kind ever shot in that section.

Bunch of Coyote and Bobcat Furs Caught in Sawtooth National Forest, Idaho

One hunter is camping on the trail of a pair of old wolves which annually have killed $2,000 worth of livestock, but trapping in that locality is difficult because the porcupine and cattle spring the traps. Another hunter is working for two old wolves near DuBois, Wyoming, which last spring killed 22 colts, as well as a large number of cattle. Near Little Bitter Creek, in the same state, an old wolf which killed 50 sheep in one night at a neighboring ranch is doomed to die, while a large bear that has been running amuck around DuBois is also being sought. This bear has so injured several cows by breaking their legs and ribs that they had to be shot, and he also has a record of tearing up camps, breaking Forest Service fire boxes, bending tools and damaging other camp materials.

The Bureau of Biological Survey is performing efficient work in conserving the present meat supply of the Western states by protecting animal husbandry from predatory animals. Every sneaking prowler that is trapped or killed means greater safety for the cattle and sheep on the range. The war in the West against wild, native animals is directly aiding in winning the war abroad against humans who apparently are inspired with the ideals of wild beasts.

Getting Rid of Black Alkali

SAN LUIS VALLEY FARMER DESCRIBES METHOD

N. E. MORGAN, In Saguache County Farm and Livetock Reporter

I have lived in the Hooper section of the San Luis valley since 1892 and I have farmed here ever since and all the time. Where I have farmed the land never entirely laid down on us, so to speak. We have received enough encouragement from our efforts to produce crops to keep us bolstered up to tackle the following season again. We were much encouraged at the start when the country was virgin soil. By brushing and slight cultivation, we would reap 20, 30, 40, 50 and even greater fold from our efforts. It was quite possible then for one man with four good horses to successfully farm 320 acres and raise a good crop of wheat, oats and barley.

That very satisfactory condition was soon nipped in the bud. What turned out to be a pest worse than grasshoppers or army worms presented itself in the form of alkaline salts. These salts, unknown to the settlers, were only a little way under the surface of the soil, and thru the aid of sub-irrigation, the method used in irrigating the land, they were deposited at the surface of the soil in quantities sufficient to retard the growth of crops, and over large areas of the fields to destroy the plants entirely.

We experimented from season to season with various theories and various crops, the rehearsal of which is entirely too cumbersome for this place. Today we have certain lines which we are working along that seems to be putting these lands well into the "ring" again.

These lines or foundation of success and reclamation are—levelling the surface to a uniform grade, flooding, thoro cultivation, rotation of crops, and finally, the selection of crops which show the greatest resistance to alkali. Most of us agree upon the general principles of this plan of reclamation, but vary in our ways of applying them.

One object of this article is to give my individual view and to some extent at least, application. As I understand it, the alkaline substances which are giving us the greatest trouble are sodic carbonate (black alkali) and various nitrates. I am working to reclaim lands that prove themselves incapable of producing enough to pay for cultivation, seeding and harvesting under the old system of sub-irrigation. First the leveling of the land should be well done, so that when the water is applied it will cover the square to a fairly uniform depth, and can all be drawn off, so that the water will quickly disappear from the surface of the soil. I find it pays to flood a number of times before putting in a crop, especially if there is much alkali in the soil, for each application of water drives down into the soil and washes off large quantities of alkali. The application of river water not only washes out and drives away the alkali, but it deposits much humus in the soil surface thereby leaving what is needed. Flooding helps in two ways, it drives out what is not needed and leaves what is wanted. Flooding alone will be a success in handling alkali I am sure, but our soil is mostly a light sandy loam, and results will be much more satisfactory, if after the first flooding or so, a heavy coating of manure is applied to the land, thoroly worked into the soil and then given another good flooding before the surface is prepared for seeding.

The manure adds humus to the soil, giving the plants more food to live upon. Flooding the ground after the manure is applied moistens up all particles of the manure and settles it in the soil, thereby aiding the micro-organisms to tear down and thoroly combine into the soil the compost. This action is taking place before the crop is planted so that when the seeds are planted germination will start rapidly and the plant will start out with a boost, growing right along if the proper amount of moisture is kept in the soil. To provide the needed moisture it sometimes seems advisable to sub-irrigate some during the growth of the crop, but if sub-irrigation is used it will be much harder to keep down the alkali.

The best crop for these alkali lands that I have found is alfalfa or sweet clover. My experience has been that alfalfa will withstand more alkali than any of the cereals or potatoes I have grown; barley comes next, and then oats. Another reason why alfalfa is better than other crops; after the alfalfa plant has gotten a good start and well rooted, it does not have to be watered much while the grain must be watered much oftener. The alfalfa will live a good many seasons and during its life one leveling and one plowing is all that is needed. For grain the ground must be leveled and plowed each season.

I want to add in regard to alkali. Under the supervision of Dr. Headden of the Agricultural colllege, I made some experiments on land sown to alfalfa that carried a lot of sodic carbonate, using from 3,000 to 3,200 pounds of gypsum per acre. The action of the gypsum on the sodic carbonate should have changed it to white alkali, which is harmless to plants, but it did not. If there had been only a given amount of the sodic carbonate in the surface it should work, but there is so much of it continually coming up that the gypsum was apparently overwhelmed.

It seems conclusive to me that alfalfa is the most valuable crop to grow upon such lands as I have described in this article. We have a good many thousands of acres of such lands in Saguache county, for that matter all over the valley.

But what will we do with the alfalfa? It should not be sold for hay and hauled away; that is too great a drain on the land, nothing would be returned to the soil. We are already raising hogs; that is all right, but we need more stock other than hogs and horses nd perhaps a mixed Jersey cow or two that gives a small amount of milk and raises a measly little steer calf with hips thin as a knife blade and every time you take a look at him you turn away with a kind of a sickly smile.

Why not invest in some high-class dairy cows of a beef type to feed the alfalfa to and get lots of milk for the pigs and a cream check each week or month that feels like a hand full, to help pay expenses and have some left for Liberty bonds and War Savings stamps? Let our slogan be alfalfa, pigs and dairy cows.

Allen's Win in Utah

The pure-bred Shorthorn cattle of the Allen Cattle company of Colorado Springs are still winning prizes. Their fine herd won first, second and third prizes for senior bull calves, fourth prize for junior bull calves, second and third prizes for yearling heifer calves, first prize young herd, first prize calf herd, first prize get of sire, and junior championship on bulls, at the state fair at Salt Lake City, Utah, last week. All the pure-bred cattle were judged by John T. Kramer of Oklahoma, who is well known among prominent cattlemen of Oklahoma and surrounding states as a judge who knows what he is doing when it comes to placing the ribbons on pure-bred Shorthorn cattle. Mr. Kramer stated that this was the largest and best stock show ever held in the state of Utah.

The Allen Cattle company's pure-bred Shorthorn cattle are well known in the West. They have been winning prizes in the stock shows for years. Their herd of pure-bred Shorthorn cattle is looked upon with pride and envy by every lover of good cattle in the West.—Record Stockman.

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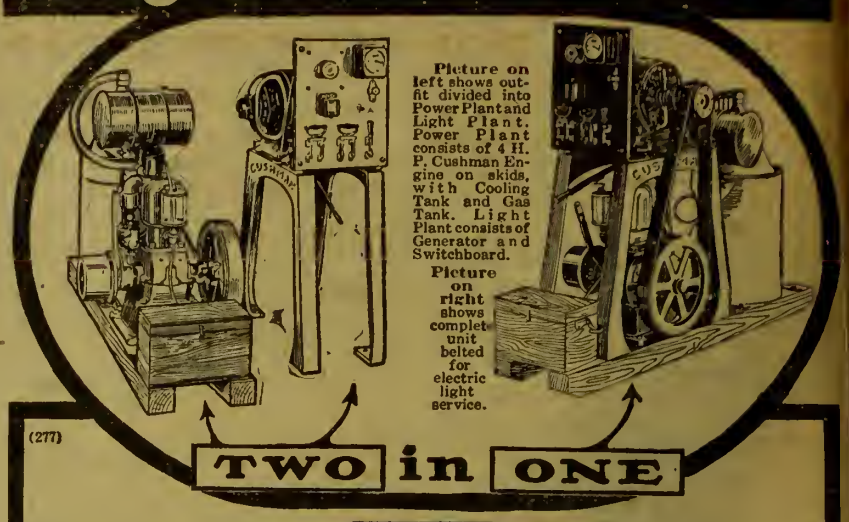

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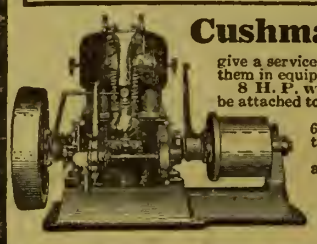

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They stand up under the wear and tear and do not wear unevenly and lose compression. Every running part enclosed—free from dust and dirt and properly lubricated. Book on Light-Weight Engines sent free.

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Alfalfa hay fed to your stock means a loss of 10 to 30 per cent because of waste. Alfalfa cut into MEAL or CHOP, equals bran. It can be fed to your cows, horses, hogs, sheep and poultry without waste.

Alfalfa CHOP means a gain of $4.00 to $6.00 per ton if sold or if fed to your stock. The CHOP, of even lengths of alfalfa stems and leaves, requires less than half the storage space and it can be cut for less than the cost of baling, by the Gehl Alfalfa Cutter or the Gehl Alfalfa Attachment, which fits any recent model of the Gehl or Silberzahn ensilage cutter. It does not shred, grind or crush the alfalfa into the undesirable condition of fibre and dust.

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describing the Gehl cutter and attachments. Built of steel—heavy triple steel frame—steel carrier or blower—double bearings on all gears—these spell DURABILITY and DEPENDABILITY. Equipment is furnished as required—blower of carrier, attachment for mixing with molasses and other feeds, and low feeding platform. Complete plans without obligation. Write today.

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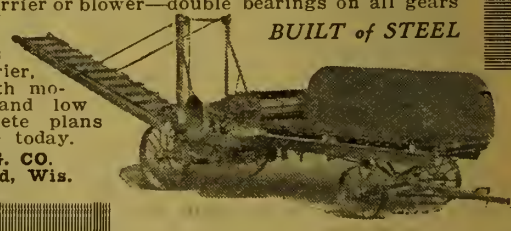

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Dept. 254, West Bend, Wis.

SPECIAL NOTICE

Due to the volume of our business and the co-operation of our customers, we have been able to reduce the cost of production of the Original Kansas Germ Free Fluid Vaccine made by Dr. O. M. Franklin, and are therefore giving the consumer the benefit of that reduction.

Hereafter the regular price of this vaccine will be 40 cents per dose.

To those who are not familiar with our product, and to show that we have every confidence in our vaccine, we will give a written guarantee that it will save every calf from blackleg. The price with this written guarantee is 50 cents per dose.

WE MAKE ONE QUALITY OF VACCINE ONLY

THE KANSAS BLACKLEG SERUM COMPANY

409 Live Stock Exchange Building, Denver, Colorado

Crowd at the Curtis School

Grand View Grange Fair

Grand View Grange held a very interesting community fair at the Curtis school house about four miles east of Littleton, September 21. About 30 exhibitors took part, each showing 10 or more products. Everything from flowers to field crops was shown. One of the pig club boys brought in an exhibit of three good animals, altho no effort was made to hold a livestock exhibit.

The Littleton garden club was represented by a boy who made nine exhibits and carried away six blue ribbons and three red ones.

The pig club exhibit brot out the difference between good pigs and careful feeding, and poor pigs without a feeding program. The only registered pig shown was 50 pounds heavier at the same age than anything else in the class. This pig not only had pedigree, but had good care and feed. Another animal shown with it lacked pedigree, and while the care and feed

Some Pumpkins at the Fair

had been provided, the difference in weight and condition of the registered animal was a noteworthy object lesson.

The farm and garden exhibits demonstrated that the neighborhood contributing to the fair had enjoyed good crops during the present season. One man brot in a pinto bean plant that had 500 bean pods on it.

One of the accompanying cuts shows the size of pumpkins raised in the district. The baby seated between the pumpkins is the child of Mr. and Mrs. Fred de Koevend and is no small baby either.

County Agent Walter Groom assisted the Grangers in arranging the exhibits which were viewed by some 175 farmers thruout the day. Community fairs of this kind afford farmers the means of getting together and comparing notes on the season's work.

Colorado Wins Wheat Prize

A bushel of Marquis spring wheat grown by John Howell on his ranch near Montrose won the championship in all classes of wheat exhibited at the International Wheat Show at Wichita, Kansas. It tested 64 pounds to the bushel and scored 5 4-5 points higher than any other wheat shown. Against it was shown practically every variety of hard wheat grown in the country. Its weight per bushel was a trifle higher than that of any winter wheat shown and nearly four pounds higher than any other spring wheat.

In addition to the championship on wheat Colorado also took first place in bald barley, two-row barley, six-row barley, alfalfa seed, flaxseed, brome grass and sheaf alfalfa. The winning samples in all these cases also were grown by John Howell of Montrose. There were no Colorado entries in oats, rye or any other variety of grasses. In other words, Colorado took first in every variety of grain and grass where there was an entry from the state.

In addition to these premiums Colorado also took first place in single plate exhibits of Northwest Greening apples, Rhode Island Greening and winter banana and second on Jonathan. These prize-winners all were grown in Montrose county.

Colorado day was one of the special features of the show, when thousands of people visited the Colorado exhibit and admired the prize-winning display. The arrangements for the day were in the hands of a Colorado committee consisting of Ralph Voorhees and J. A. Curry of Denver, D. H. Bane of Lamar, F. D. Ferguson of Monte Vista, John Howell of Montrose and H. D. Sullivan of Denver. The entertainment committee consisted of Mrs. D. H. Bane, Miss Ruth Voorhees, Mrs. F. D. Ferguson and Mrs. Roy McClintock. The entire Colorado display was supervised by the State Board of Immigration.

Corn as Cash Crop a Loser

The danger of adverse legislation is not likely to confront any legitimately conducted business during the reconstruction period after the war, unless that industry is misapprehended, is the opinion of R. M. Green of the University of Missouri College of Agriculture.

That the status of the farming industry might be misunderstood is at least credible in view of the public expressions here and there regarding the present prosperity of farming. Farmers' organizations of whatever kind could do no more appropriate piece of work than to prepare themselves with reliable information concerning the business they represent.

Figures secured by the Missouri Agricultural College from cost account records kept by farmers tell a very interesting story with regard to approximate average profits from corn as a cash crop in Missouri over a ten-year period. Taking average yields for the state and applying the cost data collected from farmers' accounts the profit per acre on corn, above the cost of production, has averaged as follows:

Year	Profit per Acre	Price per Bu.
1907	$3.42	$0.45
1908	3.94	.56
1909	3.28	.56
1910	2.71	.43
1911	3.34	.58
1912	2.53	.46
1913	.17	.74
1914	1.30	.68
1915	2.95	.57
1916	1.89	.90
1917	19.93	1.14

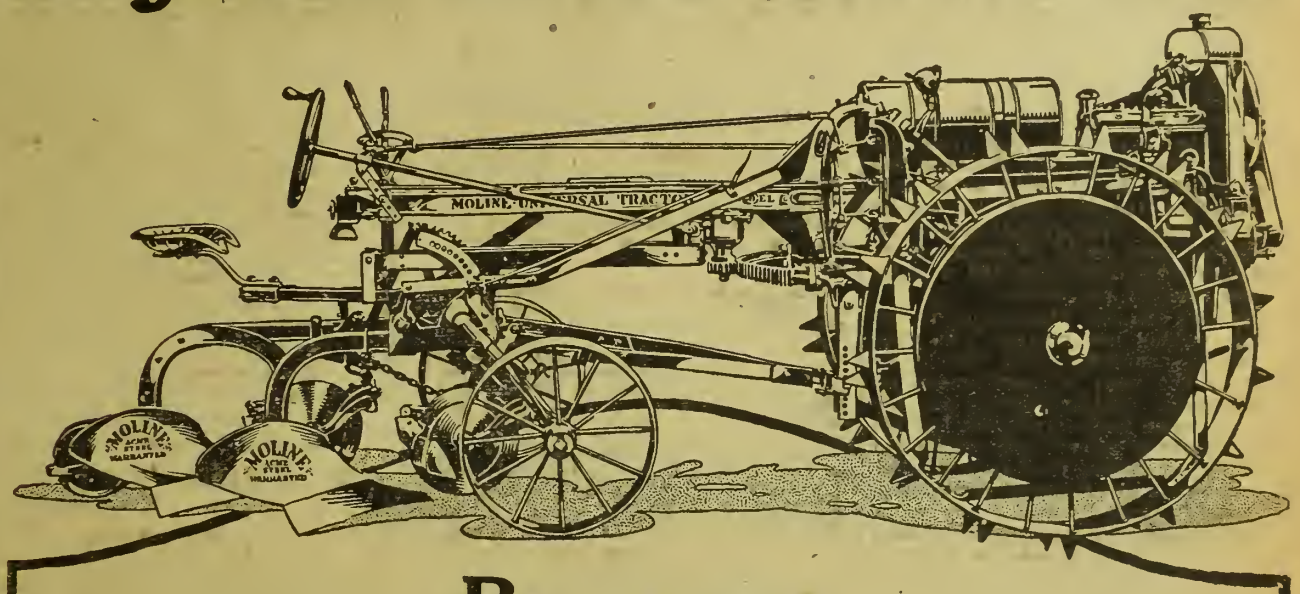
If removal of fertility were counted in the cost there would be no profit except in 1917.

Farmers' organizations should collect for their own communities just such information. Where there are county agents representative data from the whole county could be collected and kept on file at the central office. Farmers' organizations will find no little use for such information if they are "on the job."

More About Corn Smut

In view of the prevalence of corn smut this year, the following question has been frequently asked: "Is it possible to control corn smut by seed treatment, in a manner similar to that employed in controlling smuts of small cereals?" There is no method of seed treatment that will prevent corn smut, for the reason that the spores are not carried to any extent by the seed. When practicable, the smutted parts of the corn plant should be removed from the field and burned. Do not use manure from animals fed on smutted corn stover, unless the manure has been thoroughly decomposed before it is spread on the field. There is no danger, however, in using manure from animals fed on siloed smutted corn. Smut spores are killed in the fermentation process. The prevalence of smut will be reduced by rotation of crops. Corn smut lives on no other plant than corn.—W. W. Robbins, Colorado Agricultural College, Fort Collins, Colo.

Buy Your Moline Tractor Now



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You may not be able to get a Moline-Universal if you delay ordering.

You will help relieve spring congestion of shipping by buying now.

You will have plenty of time to become familiar with its construction and operation before the spring rush and will be able to work your tractor in on belt work and other light jobs.

It is the only tractor which does all farm work including cultivating.

One man operates both tractor and implement from the seat of the implement where you must sit in order to do the best work.

Tractor and implement form one unit—backs as easily as it goes forward—turns in a 16-ft. circle.

It has plenty of power for your heaviest work, yet light in weight to operate economically on light jobs. All the weight on two big drive wheels—no dead weight—no extra expense.

Substantially constructed for many years of service.

Electric lights for night work and self starter for non-robust labor.

You can practically double your efficiency—you can produce more food with less help. You will need it, order now.

Write today for full information and name of your nearest Moline Dealer. Address Dept. 107

Moline Plow Co., Moline, Illinois

MOLINE UNIVERSAL TRACTOR

Farming In Enemy Countries

CROPS TAKEN FROM FARMERS AT HARVEST TIME

Thru information secured by the U. S. Food Administration, it is now possible to describe with reasonable accuracy the extent to which German farmers, and those in other enemy countries, are maintaining production and their attitude toward government regulations.

There is abundant evidence of rigid official supervision which to the American mind would seem intolerable. For instance, the Bavarian State Office has adopted severe measures to maintain the milk supply even to the extent of taking farmers' churns and butter casks from them to prevent butter-making on farms. As a result, milk deliveries in some districts have increased tenfold and are now practically as large as in peace times, tho of course at the expense of butter production.

Naturally this was not accomplished without some friction, but considering the great number of food regulations affecting producers, of which this instance is typical, opposition has been surprisingly small.

In Hungary, fat and eggs are very scarce, but in midsummer vegetables were plentiful and were in the markets in large quantities. Peas were so abundant that instead of costing 24 cents per pound, the maximum price, they were sold at 15 cents. The exact condition of Hungary's poultry industry cannot be clearly defined, but it is known that exports of eggs from the country were stopped by the Food Bureau in order that it might not be said of agrarian Hungary that she had no eggs in June. The price of eggs is reported at from 14 to 16 cents apiece and they were commonly sold in pairs rather than by the dozen.

Farmers are now accustomed to the policy (which has prevailed in most European countries since the beginning of the war) of government requisitioning. All bread grains and fodder are taken from farmers at harvest time, leaving them only sufficient amounts for feeding their own families and livestock and for seed purposes in the year to come.

This system has sometimes resulted, as for instance in Russia, in peasants withholding and hiding for their own use large quantities of their produce. But among the Central Powers the farmers to a large degree have come forward willingly and have given up their produce without hesitation. In one district in Bulgaria, following an extensive campaign in which food needs were pointed out, as much as 440,000 pounds of wheat and 44,000 pounds of corn were received in one day as voluntary contributions. The population as a whole has given its surplus stocks willingly and the requisition system has had most satisfactory results. Requisitioning thus amounts to a system of comprehensive purchasing to meet government needs, rather than an indication of hoarding or resistance by farmers to their government.

As a further means of increasing their agricultural resources, the Central Powers have stimulated production and assisted farmers in various ways. The Agrarian Bank of Bulgaria, acting in accordance with the policy of the Ministry of Agriculture, has distributed some hundred truckloads of agricultural implements. The Ministry of Agriculture has also decided to open in Old Bulgaria 250 stud farms. To expedite the 1918 harvest, military agriculturists were instructed to take all measures necessary. The system of labor organization included the employment of the able-bodied town residents between the ages of 14 and 60 who were not engaged on their own behalf.

Farmers are believed to have benefitted to a considerable degree by the systematic tho drastic government measures.

Here in the United States, let us hope, we shall never be subject to the discipline to which German farmers submit, for it is inconsistent with our democratic ideas. But we should realize that:

Bean Threshermen Profiteering

Charges that bean threshermen are attempting to extort from farmers outrageously high rates are made in a letter recently received by O. H. Liebers, head of the Bean Division of the United States Food Administration in Denver, from an Eastern Colorado farmer, and which reads, in part, as follows:

Your article in regard to pinto beans was published in our weekly and in my opinion the care in handling which you suggest is correct. We, the bean raisers, are trying to do our part, such as in plowing, planting, harvesting, stacking, **but** when it comes to threshing, I claim we are **being held up good and plenty.** Last year we paid 25 cents per hundred, the year before 15 cents per hundred; this year they have put the price at 50 cents per hundred, and most of them cannot pay it, and will try to thresh by hand, and the result will be most of the beans will be left in the stack until too late, as we are awfully late to put in our winter wheat. On my place and the one adjoining, we have about fifty acres of beans of good stand and quality and must be handled by threshers or at a big loss to us. We are willing to pay anything reasonable, but don't feel like being held up.

Is it not reasonable for you to take this matter up with these parties and make a reasonable price on threshing our beans?

I had my wheat threshed and harvested by a combination header and thresher—fifty acres, which cost me $200. Wheat is going about seven bushels per acre, or, in other words, $4 per acre, which was fine wheat, but at $1.81 per bushel left small margin. Please look into this matter as soon as possible, as we consider it high-handed profiteering.

Defeat the Pacifists

The question has been asked: "Is it unjust to vote against men for Congress this fall who voted against the declaration of war and opposed other measures needed for the defense of the nation, but who are now backing every war activity by word and deed?"

The answer is: It is NOT unjust to vote against such men. It is not just to the nation to do otherwise. Any member of the Congress of the United States, or any aspirant to that office, for either the upper or the lower house, who in April, 1917, was not convinced of the justice of the country's cause, or who hesitated, or quibbled, or argued against the declaration of a state of war, or against the selective service law, or against any measure deemed by the President as commander-in-chief of the United States armed forces, necessary for the safety of the nation, was at heart either a friend of the enemy, a weakling, or a craven demagogue misjudging the sentiment of the nation and should be defeated overwhelmingly.

While this has been an unusually favorable season for putting in fall wheat the continued rains in many portions of the state have damaged wheat already cut and in the shock, to a considerable extent.

The sugar S. O. S. is a do-it-now call—for what is not well done now will not be done at all.

They Fit and They Last-

Mayer

HONORBILT WORK SHOES

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PUT the fleecy warmth of Hanes Heavy Winter Weight Union Suits or Shirts and Drawers next to your skin—and, you're fit to face the stiffest blast the North can let fly! Get the friendly hug of the elastic knit, long-fibre cotton, and prove how perfectly Hanes gives-and-takes with every body movement!

Greatest winter underwear sold at popular prices:

Shirts and Drawers HANES Union Suits
ELASTIC KNIT UNDERWEAR

Realize what Hanes offers you *at a popular price:* guaranteed unbreakable seams; elastic tailored collarette that cannot gap; pearl buttons that are sewed on for keeps! And, behind them all stands Hanes workmanship—perfect knitting, tailoring and finishing—an unbreakable combination!

Illustrated above are Hanes Shirts and Drawers—for many years the American standard at popular prices! Note the snug-fitting, three-button, sateen waistband.

Greatest underwear for boys! Hanes Boys' Union Suits exceed in quality, workmanship and service any boys' underwear we have ever seen. They combine the features of men's union suits with the cosiest warmth.

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P. H. HANES KNITTING CO., Winston-Salem, N. C.
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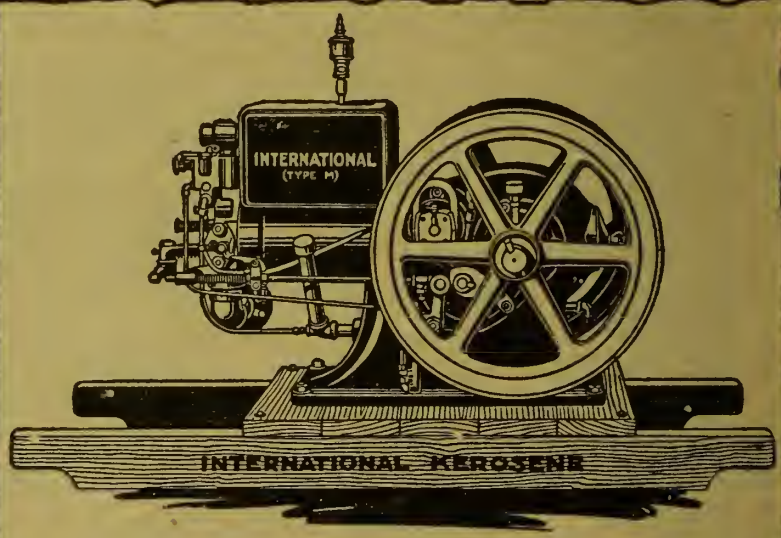
Warning to the Trade—Any garment offered as Hanes is a substitute unless it bears the "Hanes" label.



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The sizes now run from 1 to 15-H. P., with a special line in the 1½, 3, and 6-H. P. sizes, known as the **International Type M.** All sizes, even the smallest, operate on common coal oil and other cheap fuels testing down to 39 degrees Baume. Every engine develops more than its rated horse power. All conform to International standards of quality, insuring good service, long life, and cheap operation.

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TRAPPED

BY BEN AMES WILLIAMS, Author of "Three In a Thousand," "Swords of Wax," "The Power of Midas," Etc.

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NELSON HOBART saw the dory drifting up the bay past his cottage, which was one of a summer colony known as the Barbette, on the coast of Maine, and went out and picked it up. There was a dead man in it. He was a fisherman and had been shot thru the forehead with a Mauser bullet. The members of the colony were, besides Hobart, Bill Marks, a school superintendent; Anne Marshall and her mother, who were there for the first time; Eben Scour, a small and clever man, but a semi-cripple, and several other families of more or less importance. After the finding of the body several reports were received that a German submarine was in the neighborhood, and it was suspected that they had a base somewhere in the neighborhood with the intent to intercept and destroy American transports taking the national army to France.

In the next few days several circumstances arose that led Hobart to the belief that Scour—for whom he had conceived a personal dislike, largely because Anne Marshall, to whom he had been devoted, had shown a marked liking for the cripple since his arrival—was in some way connected with the activities of the submarines. He took to shadowing him, and unearthed what he conceived to be several suspicious circumstances. At last one day he told Anne of his love, and she refused him with a finality and under circumstances that convinced him she was in love with Scour.

CHAPTER VII
THE WHIP

When Hobart saw the girl leave him to join Eben Scour, when he saw them enter the canoe together and glide away down the shore, his hostility to the lame man crystallized into something deeper, fresher, more abiding. He watched them go without moving; and he was so absorbed that he failed to hear Mrs. Marshall's step on the veranda behind him until she spoke.

"How do you do, Mr. Hobart "

He whirled, startled and stammering. She smiled wisely. "I could not help hear what you were saying to Anne," she told him.

"You—heard?" Hobart repeated.

The woman nodded slowly. "I was—sorry things turned out as they did," she told him.

Hobart was still dazed and unsteady; he could not believe his ears. "Sorry?" he echoed.

She nodded. "Yes. I like you. But—I fear Anne is attracted to the lame man. Now if he were not here—" She eyed Hobart quizzically. "Anne used to talk about you to me a great deal before he came."

Hobart's eyes turned to follow the sliding canoe; and Mrs. Marshall said softly at his elbow: "I don't like Mr. Scour particularly. Does he plan to stay all summer, do you know?"

Hobart's fist clenched, and she felt the muscles of his arm swell, and stepped back with a faintly triumphant gleam in her eyes. "Come over and see me more often, Mr. Hobart," she invited. "Even if Anne is—not here—I shall be glad—"

"Thanks!" the young man responded, and turned with no further word to carry along the path thru the alders to his own cottage. From his veranda he saw the canoe come into sight an hour later from beyond the point below the Barbette, and he watched Eben beach the craft, and help the girl out, and he saw them bid each other good-by after Anne had helped the lame man lift the canoe out of reach of the tide upon the beach-water.

Anne looked up toward him and waved her hand in greeting, but he made no sign. He was boiling with a hatred that he could scarce control; and he had no suspicion that Mrs. Marshall had given an edge to that hatred by her words.

He ate supper in silence, his mother and sister watching him in puzzled concern but asking no questions. Afterward, he walked around to the side veranda and looked up the hill toward the little portable house that Eben Scour occupied. The night was foggy, but there was a light in the window of the little structure that shone in a dull glow thru the fog. Hobart found himself climbing the hill toward this light without knowing what his destination was, or what his errand.

A few feet from the little cottage, he halted. Thru the open window, he could see Eben. Scour was sitting at the table, the lamp beside him, playing solitaire. The little man's face had lost something of its morose scowl; he was smiling faintly, and the smile seemed to iron out the thousand little wrinkles in his cheeks. There was a calm strength in his eyes.

Hobart hated him; and suddenly he flung himself forward and jerked open the door and stepped inside, setting his back to the door as he closed it behind him. Standing thus, he stared at the little man by the lamp. Eben looked up mildly.

"Good evening, Hobart," he said quietly. "Sit down. Glad you came up."

Hobart's lips were twitching; he was in the grip of an emotion stronger than himself. "I didn't come to call," he said slowly.

Scour studied him. "Why did you come, then"

Hobart found no word with which to answer him. He seemed about to speak, hesitated, said huskily: "I wish you were more of a man."

"So do I," Eben agreed quietly. That surprised Hobart.

"Why?" he asked.

Scour lifted his shoulders faintly. "We both failed at—enlisting, I believe."

A gust of rage swept Hobart, he took two steps forward and stood above Eben. "I wish you were enough of a man so that I could—thrash you," he rasped. His anger was so great that his voice was a hissing mumble, trembling and shaking. Eben looked up at him, unafraid.

"Why?" he asked. "I have no—feeling of enmity toward you."

"I have toward you," Hobart snapped. "And—by God—if you don't get away from here—I'll not be responsible for what I do to you."

Eben looked at the big man coldly. "Sit down," he said; and when Hobart still stood above him, he rose with a lithe spring, and snapped again: "Sit down."

Their eyes clashed, and Hobart's could not sustain the shock of the encounter. There was a chair beside him. He sat down; and Eben resumed his own seat, and the two faced each other across the table.

"Now," said Eben, "I will tell you that I'll take all responsibility for staying here—as long as it pleases me."

Hobart gripped the edge of the table; half rose. "For a snap of your finger, I would break you in two where you sit," he threatened. "If you were a man."

Eben tilted back in his chair, smiling a little. "You feel that you are—handicapped—by my stature?" he asked.

"Your lack of stature," Hobart corrected. "It's all that saves you."

"I will remove the handicap," Eben told him. "In certain circumstances—men are equal."

Hobart stared at him, shaken in spite of himself at the strength and confidence in the little man's tone. "What do you—"

"I propose to put us on an equality."

Hobart laughed disgustedly. "You mean—guns. I should have expected that from—such a man."

Eben shook his head quietly, glanced about the room. Against the wall hung a coiled dog whip of braided leather; and he rose, and went and got this, and returned and laid it on the table between them. Hobart eyed it in bewilderment.

"You are reputed to be—lucky at cards," said Eben.

"What of that?"

"This," said the little man, leaning quickly forward. "You complain that I am not your equal—but I am as lucky at cards as you. I propose we play a few hands of—poker, let us say. The winner picks up the whip, there, the loser bares his shoulders and submits to a lashing; and the loser leaves the Barbette. What do you say?"

"I say 'Yes'," Hobart snapped. He reached for the cards on the table between them, shuffled them, laid the deck on the table. "Cut for the deal, little man."

Eben nodded. "One moment," he said, and drew from the table drawer a little pasteboard box that had once held rifle cartridges. When he opened it, Hobart saw that it contained a tiny set of poker chips. Eben lifted a file of blues between thumb and finger. "Say we each start with twenty blues—ten reds and ten whites," he suggested. "When one man's stock of chips is exhausted—he has lost."

"Right," said Hobart; and Eben divided the chips and thrust his store across to Hobart. Hobart counted them carefully, grinning at the little man. His confidence had returned with the touch of the cards. He won the cut, and dealt. Eben riffled his cards, surveyed them. He held three kings, and he opened the play with a blue. Hobart at once raised him five blues. Eben, without a word, threw down his cards, face down; and Hobart drew in the chips and chuckled.

"Try to give me a run for my money," he mocked.

"I will," Eben promised, and shuffled, and dealt. His eyes were alert.

Hobart opened for a blue; and Eben scanned his cards and found them hopeless. He held a two, four and seven of hearts, and an ace and king of clubs. He raised Hobart two blue chips, and Hobart met the raise, and called for two cards. Eben took one, discarding the ace. He drew a jack of diamonds, and waited for Hobart to bet.

"These look good for two blues to me," Hobart announced, and thrust forward the chips.

Eben said nothing, but he met the bet, and then pushed into the pot his entire store of blue chips. Hobart looked up quickly, laughed. "You're too greedy," he jeered. "My three little four spots aren't good for anything in this. Take the pot."

"Thanks," said Eben. "I will." And he did. Hobart dealt. Eben found four clubs among his cards, passed, and when

(Turn to Page 13)

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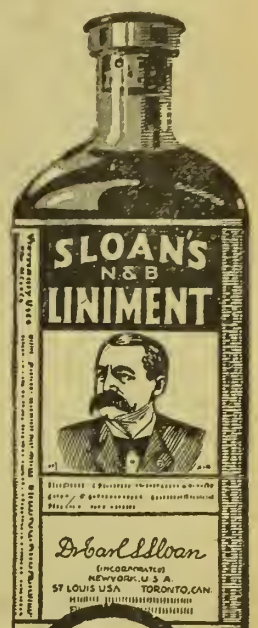

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Colorado Farmers' Congress

The Colorado Farmers' Congress and Congress of Farm Women will be held December 9th to 13th, instead of in January, as heretofore. This change in meeting time is in accordance with a resolution adopted at the last session, the reason being that the week formerly selected for the Congress was also the meeting time of the State Grange and the Farmers' Educational and Co-operative Union, two bodies that hold their annual sessions in Denver, just prior to the stock show. These conflicting dates kept many farmers from attending the Congress at Fort Collins.

Director H. T. French of the Extension Department of the college, who is secretary of the Congress, has already sent out the official call and the credential blanks, it being desired to have delegates appointed long enough in advance of the session so that the list may be printed. The program will be an interesting one, as there are many problems in relation to the war that need full discussion and concerted action by the farmers of the state and the farm women. Further particulars will be given in the next issue of Western Farm Life.

* * *

Jacob and Esau

We discovered the error, but too late to make the correction in the issue of October 15th. Consequently the editor has been searching the scriptures, with profit to himself. In the editorial "Capitalizing Patriotism" reference was made to Jacob, as having bartered his birthright for a mess of pottage. It appears, on investigation, that Jacob was on the purchasing and not the selling side of this family arrangement, his brother Esau being the seller. It seems that Esau, who was a cunning hunter and loved the great outdoors, came in from the chase hungry and tired, and detecting the odor of pottage being prepared by Jacob he desired it.

"And Jacob said, Sell me this day thy birthright.

"And Esau said, Behold I am at the point to die; and what profit shall this birthright do to me?

"And Jacob said, Swear to me this day; and he swore unto him: and he sold his birthright to Jacob.

"Then Jacob gave Esau bread and pottage of lentiles; and he did eat and drink, and rose up and went his way; thus Esau despised his birthright."—Genesis xxvi, 31-34.

These quotations are taken from a very interesting chapter of the Bible. The story is intensely human. Isaac, the father, loved Esau because "he did eat of his venison." Esau's cunning with the weapons of that ancient day brot down many a buck; Isaac liked the taste of venison and, therefore, the hunter was his favorite. Rebekah loved the gentler Jacob; "and Jacob was a plain man dwellling in tents."

After that little trade of the pottage for the right of the first born, which was then only a technical right acquired by agreement of the brothers without the consent of father, something had to be done to make it stick. So when Rebekah heard Isaac's request of Esau that he go forth once more to the hunt and bring back a deer, and cook it in a savory way, so that the father might give the son his dying blessing, she suggested to Jacob that now was his chance to have the birthright trade sealed. This was accomplished by the slaughter and preparation of a young goat at the hand of Jacob, who adorned himself with camouflage to make his skin rough and hairy like that of Esau, so that the blind father might be tricked, not only by the false odor of the substitute venison, but by the feel of the son's hands and neck.

The trick worked, altho Isaac murmured that it was "the voice of Jacob but the hand of Esau." He ate the pottage of substitute meat and gave his blessing to the pretended Esau, him of the twins born last. And thus the course of world events was altered.

Jacob's craftiness is easily excused, for he bought his brother's birthright at Esau's own valuation, and there was so little difference in their ages—none in reality—that Rebekah's duplicity may be justified, for Jacob seemed so much better fitted for the role of one of the fathers of a wonderful race than the nomadic and uncouth Esau. Having found such food for reflection in reading a chapter in Genesis we are really not very sorry that we blundered, altho it is never wise to guess at a historical reference with a library at hand.

* * *

Grading Our Potatoes

Complaint is being made that the establishment of potato grades at this time is interfering with the freedom of the producer in marketing his goods; that the period of the war was not a good time to institute this reform, because the demand for food of any and every sort is so insistent that not even the cull potatoes should be held back from the consumer. These arguments have the ring of soundness until they are carefully weighed. It does seem, on first thought, that quantity and not quality is the chief consideration when it comes to foods. But on second thought it becomes apparent that all of these arguments have been advanced against reforms in the marketing of other food products besides potatoes in normal as well as in abnormal times. It might be said of wheat and corn that grading is an unnecessary hardship under present conditions, but it isn't said, because we have learned the wisdom of grading our cereals. We know that we get more for quality and we strive to produce quality.

We know that the grading of eggs has worked a wonderful reform in the poultry business, wherever practised, and that the producer has been the chief gainer. We know that the butter made today is far ahead of that made thirty years ago, and the price we get for it is accordingly higher. Everything we eat is put up in neater form, is inspected from a sanitary standpoint and is paid for by the consumer on this basis. Perhaps we have acquired some unnecessary frills in this improvement process, but the excess can be eliminated without hurting the product, the food standard of which must be maintained.

Most of us remember when apples were sold exclusively by the barrel, when there was a top layer of fair fruit, the bulk comprising worms, culls, windfalls and everything that could be spared from the cider mill. The public got tired of buying apples that way, altho they were cheap, and now barrels are the exception and boxes the rule, with the higher grades wrapped in paper to prevent bruising. With perhaps the exception of the paper wrapping, no apple grower wants to go back to the old days when he could pick anything on the tree or on the ground under the tree, throw it in a barrel and sell it. He is getting a lot more for his selected fruit, even if he loses some of the culls, for lack of feeding or dehydration arrangements.

Potatoes do not differ in any particular from apples in regard to what can can be done by properly grading the crop. They are a much more important article of food, and one of the reasons why the American people do not eat more potatoes is our unattractive way of selling them. The consumer may not recognize scab, dry rot and blight by name, but he can see dirt and disfigurement. Too often he sees it on the table, after the potatoes are cooked, and then and there the potato producer has lost a customer. Grading is only one step in the direction of increasing consumption, but it is the important first step, and it had to be taken some time. We can see no good reason for putting it off, especially as the graded potatoes are being insisted on by army buyers. Nothing but the best is good enough for our fighting men. So let us make up our minds that potato grading has come to stay and meet the new conditions not with complaints, but with an earnest effort to put out a first-class product, knowing that the ultimate benefits are going to the producer.

* * *

The Blind Relief Bill

The one important measure of constructive initiative law coming up at the forthcoming election is that inaugurated by the United Workers for the Blind of Colorado entitled "An Act for the Relief of the Adult Blind" and we want everybody to vote for it. The bill must be all right, for it is officially endorsed by both the leading political parties and the Colorado State Editorial Association, Denver Press Club, Colorado State Federation of Labor, Denver Labor and Trades Assembly, Colorado State Grange, Farmers' Educational and Co-operative Union, Colorado State Federation of Women's Clubs, Woman's Club of Denver, W. C. T. U., Jane Jefferson Club, Nine United Italian Societies, Sons of Colorado, Ministerial Alliance of Denver, Colorado Farmers Congress, Farmers Institute of Greeley, Loveland and other places; Navy League, Colorado Pioneer Printers, Denver Rotary Club, Mother's Congress, Colorado Suffragists Association, Parent and Teacher's Association, Society of Ornamental Horticulturists, Royal Highlanders, National Order of Cow Boy Rangers, Colorado Tourist Bureau, Colorado Milk Producers' Association, Jewish Relief Society, besides the approval of several religious and fraternal societies and labor unions.

* * *

The Potato Growers' Opportunity

The Potato Association of America has adopted as a slogan "One Billion Bushels American Grown Potatoes for 1919." That is looking at the subject in a big way—the only way that will bring success to an industry that has been on the mountain top one season and in the bottomless pit the next. Before we can expect the American people to become potato eaters to the same extent as are Europeans it will be necessary first, to grow enough to go around every year; second, to properly grade them so that the consumer will get potato value for his money.

According to The Potato Magazine, official organ of the association, America must produce enough to offset the direct importations formerly made from Holland, Germany and Japan, as well as provide for the manufacture of our own potato flour and potato starch. "Made in Germany" products of every sort are eternally barred. Progress is being made with grading and with the utilization of surplus stock in manufactures. Much remains to be done to stabilize the industry, but its fate is in the hands of the growers, if they will but combine and exert their power in the right direction.

The far-reaching effects of war on remote parts of the world, may be seen in efforts to safeguard the wheat supply of South Africa. According to the Wheat Conservation Act, recently enacted, standard flour is to contain not less than 75 per cent of the wheat berry, and 83 per cent of standard flour is to be mixed with 17 per cent of meal, barley, rye or other regulation substitute. This South African ratio is noticeably similar to the 80-20 plan of wheat conservation now in force here in America and in the allied countries.

The Branding Iron

Applied by Elias M. Ammons

The Food Administration has asked for a special agent to control the handling of wheat on the Colorado Western slope. Under the present arrangement local millers claim they cannot operate except for local demand. Livestock growers need the bran and shorts for feeding, and an effort will be made to adjust the matter to accommodate all interests.

✦ ✦ ✦

Ed Hanson at Hotchkiss grew 70 acres of Russian sunflowers for ensilage. It produced more than 800 tons and the results from feeding it will be looked for with a great deal of interest. Sunflowers are a great commercial crop in portions of Russia. As they grow well every year in this western country, there is no good reason why they should not, in the near future, constitute one of the leading feed crops. If the feeding value of the crop shall prove to be as good as is anticipated it may be used to materially increase livestock production in the West.

✦ ✦ ✦

While the fruit crop on the Western slope was generally light this year's prices were good, so there was a much larger return for the outlay than there has been for some years. At Palisades there were instances where peaches produced as much as $1,000 an acre.

✦ ✦ ✦

A short time ago a certain farmer went into town to get help to harvest his potatoes. After a good deal of difficulty and discussion of wages he secured two men to pick up potatoes at 10 cents a sack. They worked a couple of days. They constantly grumbled about everything; the farmer did not have sleeping quarters to suit them, the board wasn't good enough; the crop did not yield potatoes in big enough bunches to suit them and as they could make but $8 or $10 apiece a day, they quit and went back to the pool hall to wait for more lucrative jobs. Also, a short time ago, a certain regiment in the Marines, after more than a month of heavy fighting at Chateau Thierry, was ordered to another point on the front. The boys marched all night and all day and all night, without rest, to go into battle at daylight on the second morning. They made an advance of ten miles and captured more than 3,000 prisoners. They got ahead of their supplies: they only had part rations; their losses were necessarily very heavy; their labor was not only great but their situation extremely dangerous; they didn't get a fourth the wages our potato diggers were paid. Isn't it about time, if this war is to continue another season, that men like these potato pickers should be conscripted by the government?

✦ ✦ ✦

Of late the papers have been running pages of advertisements contributed by groups of business men calling for men to go into several branches of the federal service to help the war. In one page advertisement the inducement was held out that the men would not be compelled to wear the uniform! This sort of talk might have appealed to certain classes five or six years ago. At the present time, if there is any one in the country to whom it would not be an inducement to be given the privilege to wear the uniform he should be consigned to "the country from whose bourn no traveler returns."

✦ ✦ ✦

In spite of the high cost of feed near the cities and towns of the state the dairy output of Colorado this year will increase thirty per cent over that of last. There has been some falling off near the large cities, but there has been considerable increase thru the country districts.

✦ ✦ ✦

Notwithstanding the damage done to the crops in some portions of Southwestern Colorado by dry weather the past season, wheat yields seem to have been unusually high. Machine returns show much wheat that produced 40 to 50 bushels of first-class wheat per acre.

Comment by Farmer Putnam

HAS A BAD DREAM ABOUT FAIRS AND IS SENT TO CASTLE ROCK TO REST UP A BIT

THEM people down in Tuckerville, Cow county, is a fine bunch, allus makin' me feel to home, so's I go back ag'in and ag'in, and they've got somethin' goin' on most of the time fur me to attend. I was down fur their fair week, goin' on the last day when they held the sale. I seen all the exhibits I wanted at them other fairs; so many I got tired of seein' bundles of grain tied up with ribbons. I got so dreamed I sat down to the breakfast table one mornin' and Josephine brot on a big platter with a freak squash, weighin' 48 pounds, garnished with a string of whole red peppers, and a bowl of badly smutted wheat heads fur breakfast food; a sprig of barberry bush layin' by the side of it; a patent egg candler, all lit up ready fur use and two fresh laid storage eggs by the side of it; a home cannin' outfit, steamin' hot; a pile of ten ears of high altitood corn, a half a peck of U. S. Grade No. 1 potatoes and a piece of cheese with a card on it "Made from home produced cream in our own factory."

After Josephine got the table set she give me a card and sez: "Tom, this here card is from the draft board. You register your name on it and then you have to git your serial number and have physical examination before you kin eat."

"Land alive, woman!" I yelled, right out loud in my sleep, and Josephine akes up and pulls the covers up offen the floor and sez: "Shet up, Tom, ou been a-dreamin'; you been restless as a bedbug all night; I told you not drink two cups o' coffee fur supper."

Well, I told the editor that thar eam, and he sez: "Putnam, you been tendin' too many fairs; it's got on ur nerves. Suppose you lay around few days and visit; go down to stle Rock and git rested up a little fore you try to do any more literary rk."

That's how I happened to go down Vic Tucker's town fur the big sale y, when everybody was supposed to ing in their surplus cattle, and we had a merry time, except them that s sellin' the stuff. It went purty eap, but I reckon it takes two sides make a bargain day and the buyers e had their innings.

Them folks is bighearted and they ne a lot fur the Red Cross and them ier organizations that helps to make r a pleasure One of the farmers ot in a stallion and give it to the d Cross. The hoss cost originally statin' that he had no use fur political emblems durin' the Liberty loan campaign. Bill Lambert then bought him and give him to the Y. M. C. A. fur $6 and Ed Sidensticker was next fur $10 fur the Y. M. C. A. Then Garfield Johnson took him at $5 and back to the Y. M. C. A. Next came the Knights of Columbus, thru Lambert, at $5, and next Joe Winkler fur the same cause at $6, and then Henry Lowell got him fur $5 and said "Salvation Army." Ed Sidensticker bought him ag'in at $5 fur the K. of C.; Lowell at $5 fur Red Cross; Christensen $5 fur Y. M. C. A.; Cox $3 and Nixon $3.50 fur Red Cross, and finally Bert Cave $3 fur Red Cross and give the burro to a kid that was settin' on him, and the boy rode the mule home happy, after havin' made $[illegible] fur the good of the soldier boys.

One of the farmers was sayin' that I oughter bought the mule, because of

The Red Cross Burro and the Lucky Boy

00 when he was imported, but that a long time ago. He's led a long useful life and now in the evening is days he was give to a good cause his owner. Well, on the fust round Sidensticker and Mr. Lambert ght him fur $55 and then they ed him back to the Red Cross to ag'in. Well, Henry Singer next him fur—or he got Henry Singer $25, and so on, the follerin' bein' owners of the stallion fur a min- each at the price named behind name: C. H. Hurlbut, $25; Arch ham and Jack Shehan, $25; H. Bert e, $20; Bert Lowell and Charles r, $25; Mr. Cox, $12; George Nixon, ; Mr. Robinson, $10; Herbert and glas Stewart, $20; James Wilson, ; C. W. Curtis, $20; Th. Christen- $20; Mike Wyatt, $24; Bert Low- $20. So the old hoss was good fur r $350 of Red Cross money, which paid cash on the spot by them ners.

hen the last feller took the hoss they brot on a burro, representin' emocratic donkey. Senator Reilly Kiowa had come over to spend tle money and talk around among farmers about crops and Liberty and they sold him the burro fur He give it back to the Red Cross, bein' from Missouri myself, but that warn't the Missouri strain of mule. Our Missourians beats the burro at all pints exceptin' the bray, which is longer, louder and more lingerin' in the Rocky Mountain canary then any other critter, be he bird, beast or human.

The editor took a picter of that burro with the kid ridin' it and I ast him if I couldn't put in my column and he sez that was where it belongs and where people looked fur such foolishness. I reckon maybe they do, but more of 'em look here then looks over on the opposite page, I bet, where all them highbrow editorials is printed!

Well, as I was sayin'. I had a fine time in Castle Rock, and here's regards to all them folks in Douglas county that is doin' so much to build up a fine dairy and beef district, where them sales is goin' to attract people from all over the state because they got good stuff to offer and they ain't afeered to let it go at the right prices. You got to sell cheap on some things folks, or the buyers won't come. Bring in your one-eyed and three-titted cows and make bargain rates on 'em and hold back the fine stock fur higher figgers; that's the way them merchants does in bargain sales; they don't lose nuthin' in the long run by givin' away somethin' here and thar. You got to have bait if you want to ketch fish.

THOMAS JEFFERSON PUTNAM.

By-Products of the Sheep

The inedible by-products of the sheep, as completely utilized by Armour and Company, are more valuable than those of either the steer or hog, considering their proportion to the carcass.

Sheep pelts, of course, come first in value. This includes the wool, which is valued not only for its fineness, but also for its length.

Sheep skin is more generally used than any other one class of leather. It is used in shoes almost as much as calf. Chamois skins are today entirely made of sheep skin. The leather is used for bookbinding exclusively, for gloves, hatbands, suit cases, and a wide range or other articles.

In the Armour wool houses the full length of the wool is saved by taking it out, roots and all, by means of chemicals instead of by shearing.

This wool is hand sorted according to length, fineness and color into more than fifty grades. It is then scoured to remove dirt and grease, after which it is dried, baled and sold as "scoured pulled wool" direct to manufacturers.

In the process of scouring lanolin is obtained. This is a fatty substance largely used in face creams and ointments because of its soothing effect on the skin.

Musical string, clock cord and surgical ligature for sewing up wounds, as well as casings for little sausages, are made exclusively from the intestines of the sheep. There is no such thing as catgut violin string, that being merely an arbitrary name for the product of the sheep.

Suprarenalin, the active principle of the suprarenal gland, just above the kidney, is extensively used in medicine. More than 130,000 sheep are required to make a pound.

Pancreatin, another medicine, is made from the pancreatic gland, and still another from the mammary glands.

The thyroid gland (seat of goitre in humans) yields an important medicinal product.

A class of oleo oil is made from the better grade of mutton tallow, and enters into the manufacture of oleomargarine.

Inedible greases are used in soaps. An important by-product of soap-making is glycerin, which is in great demand for the manufacture of nitroglycerin and other explosives and war munitions. The blood, dried and ground, makes calf feed and fertilizer. Hide trimmings make glue. Bones and other waste make tankage and fertilizer.—From Progressive Sheep Raising, issued by the Armour Bureau of Agricultural Research.

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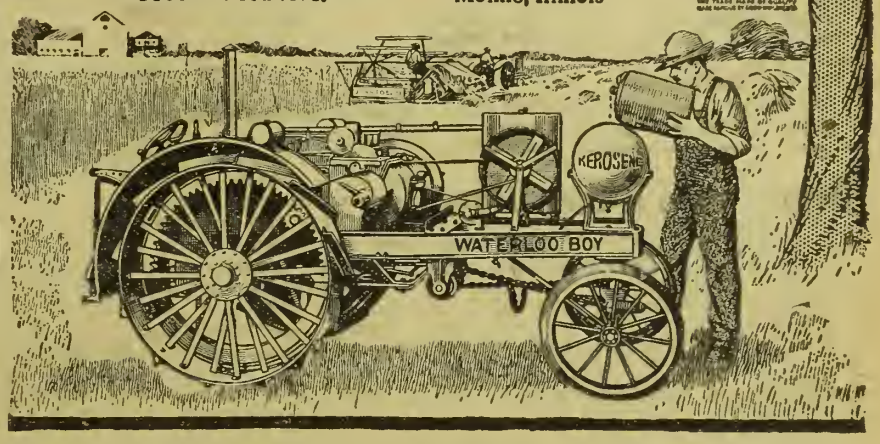

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United War Work Campaign

By Charles Dillon

Don't let anyone tell you that the Y. M. C. A. or some other of the seven organizations in the United War Work Campaign makes your boy pay for the things he gets at the front! There's nothing to it.

In the front line the "Y" sells nothing. Chocolate, fruit, soup and cigarettes are given away for the asking, to the amounts of hundreds of thousands of dollars. In the canteens further back tobacco, which is the largest item, is sold at the same prices as in the quartermaster's stores, the "Y" standing the transportation loss, which amounts to a very large total. The "Y," which is the name used by soldiers everywhere for the Y. M. C. A., never has, and never will make one cent of profit on its activities.

This is just as true of the Salvation Army, the Jewish Welfare Board, the War Camp Community Service, the K. of C., American Library Association, and the other War Work organizations. They are not in the war for profit; they are our representatives in camps of this country, and in the other countries where our men are fighting, our representatives sent out to supply the comforts and entertainments, and the helpful companionship, or advice, which will make life worth while living, and bring our boys home in better condition than when they left.

General Pershing in General Order No. 33, asked the Y. M. C. A. to take charge of the canteen. He had seen the Mexican border before and after the arrival of the "Y"; he knew what that organization could do.

My father fought in the Civil War, and his father was in the Revolution. I have no record of what was said by the soldiers in '76, but I do know that my own father agreed, after a year in prison camp, that war was precisely what Sherman said. You all know the word. War is bad enough at any time. even with all the best of comforts we can provide, with the best of care and hospitals, and convalescent camps, war is bad enough. It is so bad that our men are fighting with extra determination to see to it that we shall have no more of it after the present job has been finished. If we expect our men to do a good piece of work; if we want these boys to come back to us fit, and able to take up their work on the farms, in the stores, colleges, business houses or on the farms as strong, or stronger than when they went away, we must respond freely whenever we are asked to give in the support of activities, such as are included in the United War Work Campaign.

President Wilson decided before the Fourth Liberty Loan was launched that all these activities of the seven organizations, the Y. M. C. A., the Y. W. C. A., the K. of C., the Jewish Welfare Board, the War Camp Community Service, the American Library Association, and the Salvation Army should be consolidated under one head, and instead of going to the country frequently for money to support them, it would be better to ask for one amount.

Began as Farmer Boys

At a luncheon which they recently attended as guests of honor, the following men stated that they began life as farmer boys:

Judge E. H. Gary of the Steel Corporation.

F. W. Woolworth, the originator of the five and ten-cent stores.

Darwin P. Kingsley, president of the New York Life Insurance Company.

Frederick T. Haskell, vice-president of the Illinois Trust Company of Chicago.

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Colorado's Yearly Loss by Weeds Over $4,000,000

(Continued from Page 5)

millet, sorghums and others, and one gains some idea of the tremendous losses in one state due to unclean grain and seed. And it is well to emphasize again that unclean seed means that the fields which produced the seed were weedy, and what is worse, it means that the resulting crop grown from such seed will be weedy.

Uniform seeding is prevented by the clogging of the drill with chaff, straw and dirt.

Alfalfa seed infested with dodder does not always find a ready market, and is only purchased by seedsmen at a much reduced price. The cleaning of seed containing dodder is a difficult and expensive process.

Some weeds injure stock, if eaten, because of barbed beards. The beards of downy brome grass and wild barley may work into the gums of animals causing ulcers and the loss of teeth.

Some weeds, such as cockle bur and sand bur, injure wool and disfigure the tails and manes of horses.

Some Are Poisonous to Stock

A number of weeds are poisonous to stock. Not only do such weeds decrease the crop yield, but when eaten may cause the death of stock. A rather prevalent weed along ditch banks thruout our section is water hemlock, one of the most deadly of plants. The whorled milkweed, which has caused such tremendous losses of sheep on western ranges, is rapidly becoming a pernicious weed in fields and orchards. It has also been found in hay.

Weeds retard the drying of grain and hay. Many weeds are succulent and hold moisture and thus retard the drying of crop plants with which they are mixed.

Some weed seeds, such as cockle, damage the quality of flour.

Weeds detract from the appearance of a farm. A weedy farm is less liable to make a ready sale than a clean farm. If the tract is weedy, the purchaser will consider the cost of ridding it of weeds. It has been claimed by some that a farm which will grow weeds will grow crops of all kinds, or in other words, that the presence of weeds indicates fertile soil. The validity of this claim is very much open to question. As a rule, weeds as a class, will grow almost anywhere, being indifferent of good and poor soil.

There is a "water weed" in irrigation ditches of the west which has spread to such an extent in some instances as to almost stop the water current and which has necessitated a very considerable amount of labor to clean out.

We seldom think of the loss in personal efficiency and the annoyance, which result from weeds to persons afflicted with hay fever. And yet, they are worthy of consideration. A party from the east addressed the Secretary of the Commercial Club of a Colorado city in these words, "You advertise to us that your city is one where those from the east suffering from hay fever will find relief, and yet you allow your roadsides and vacant lots to grow man-high with weeds."

The weed problem should not be taken lightly. The surprise is that more discussion and more attention is not given to it. As was said at the beginning, a weedy farm is often regarded as an inheritance, undesirable to be sure, and one that must be combatted, and, moreover, wrongly considered as one which will, under any circumstances, be transmitted to the next generation of farmers.

Weeds decrease our crop yields to such an enormous extent; they int fere so seriously with our farmi operations; and they cause such t mendous losses in dollars, that c certed effort should be directed their reduction and eradication. A community, large or small, that s itself the task of practically elimin ing its weeds, and adopts and stic to a program of action, can work w ders.

U-boats and wastefulness are tw enemies.

The man who would eat cake Christmas must cut on sugar now

Get Your Money's Worth In Work Every Season

THE Light "Allwork" Tractor is built for all around work in any season of the year. Powerful for heavy plowing—light enough to get out on wet land in early spring or on a soft seed bed for harrowing and seeding—low enough for orchard cultivating—plenty of power for belt work. Here is the *practical* light-weight, high-power farm tractor. Free from freakish features—runs on four wheels; carries the largest 4-cylinder engine we know of on any 3-plow tractor. It sets crosswise on the frame, thus giving direct spur gear drive—no bevel gears. Belt pulley is on direct line with crank shaft.

4 cylinders, 5 in. bore, 6 in. stroke, 750 R. P. M., develops 28 H.P. at belt and 14 H.P. at drawbar. Automobile type front axle, roller bearing rear axle—self-oiling steel gears thoroughly protected from dust. Weighs 5000 lbs. Develops 3000 lbs. drawbar pull and 4000 lbs. on low gear. Burns kerosene. Turns in 12-foot radius—pulls three plows (will pull four under favorable conditions)—will run 18-inch silage cutter, 28-inch separator—pull an 8-foot road grader. Gasoline or kerosene fuel. Two-speed transmission working in oil.

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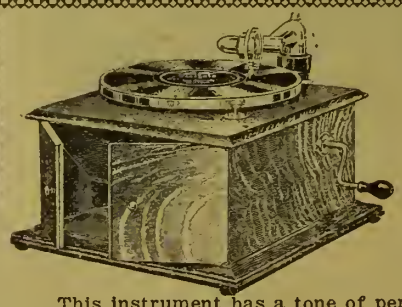

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WE PAY CARRIAGE

Knight-Campbell Music Co.

Largest in the West **Denver, Colo.**

Trapped

(Continued from Page 9)

Hobart opened for a blue chip, he stayed. He drew a club, completing the flush and Hobart bet three chips.

Eben tossed his cards on the table, face up. Hobart stared at them, then at Eben. "Aren't you going to bet?"

"No," said Eben.

"Why not?"

"I don't feel lucky."

Hobart's self control was shaken; he slapped his cards down on the table, and Eben saw that he had held a full house, and he smiled quietly, and caught up the deck for his deal.

At the end of fifteen minutes' play, the chips were still evenly divided, and the men had settled down to a grimly cautious game. But again and again Eben laid down the better hand without a bet, until Hobart began to watch him with puzzled dismay, and finally with desperation.

Scour seemed oblivious of this. He played calmly, refusing large bets but winning small ones so consistently that his pile of chips began to mount, and Hobart began to fume and finally broke out in a fit of cursing.

"What sort of a baby game are you playing?" he demanded. This will go on all night."

"No—I think you'll be cleaned out in half a dozen more hands," Eben told him soolly.

Hobart laughed. "Not at the rate you're betting. One white chip lasts you half an hour."

"Perhaps there's some other game you would prefer to try."

"Deal, deal," Hobart snapped. "Quit talking and play the game, can't you?"

Eben leaned intently forward, drew the butt of the whip a little toward him. "Very well," he said. "Just as you say." And he dealt swiftly, five cards to each man. Hobart lifted his and scrutinized them cautiously. He held the ace, king, queen and ten of hearts, with a small diamond. They were not playing jack pots. He thrust two blues into the middle of the board. Eben met the bet.

"One," Hobart snapped, and slid the card among his four hearts, shuffling them back and forth in his hands and watching Eben. Eben took two cards, laid the deck aside. Hobart slid open his cards. He had drawn a club, his hand was worthless. He laughed triumphantly, and bet three blues.

Eben met the bet and raised it without a word by enough blue chips to exhaust Hobart's pile, and Hobart cursed and surrendered the pot. Eben smiled a little. "The best time to bluff is when you can raise the other fellow's bet," he said quietly, but he did not disclose his hand as he pulled in the chips. Hobart took the deck to deal, with Scour's hand on the bottom, and in shuffling turned the deck up so that he saw what Eben had held. He saw four jacks, and the thought of how near he had been to destruction turned him cold. He dropped half the deck on the floor, cursed his clumsiness, and bent to pick them up. Eben did not offer to help, but watched unsmilingly.

Hobart picked up the cards, and shuffled them for a long time. He was still clumsy, the cards slipped this way and that. Scour said quietly: "You're getting nervous." Hobart made no comment, but dealt. Eben found he held a flush to an ace, and he hesitated for a moment, and then opened the pot. Hobart raised cautiously, and Eben met the raise. Scour refused more cards; Hobart took one. Scour passed, and Hobart bet all his chips. Eben looked at the big man thoughtfully, then met the wager. Hobart had a flush to the ace, king, and won. His eyes lighted exultantly, and he laughed with nervous triumph for the play had doubled his store of chips, and had reduced Eben to a narrow margin of safety.

"Now I'll end it," Hobart boasted. "Deal."

Eben dealt, held nothing, and refused to play the hand. Hobart caught up the cards to shuffle; and again he dropped a good half the deck upon the floor. Eben made no comment. When the cards were dealt, Scour found he held three queens. He opened the pot; and once more Hobart raised him. When Scour met the raise, he had only three white chips remaining.

"Two cards," he said quietly.

Hobart picked up the pack to deal, threw one card and then another across to Eben. As he threw the second, Eben reached forward as though to receive it; but instead his hand shot out, caught Hobart's wrist, twisted.

The big man gave an exclamation of pain at the wrench; his hand turned over. A card that had been held hidden in the palm fell face up upon the table. It was an ace. Still gripping Hobart's wrist, Scour turned over the other man's cards which lay between them. They included two aces.

"Well?" asked Eben smiling.

Hobart had propped both hands against the table; he was staring at the exposed cards, his face torn and red and twitching.

"I'm afraid your methods of dealing are—irregular," said Eben Scour gently.

Hobart jumped to his feet, to the floor. He turned there and poured out a torrent of abuse, profanity. Thru this torrent cut two words from Eben.

"Get out," he said.

Hobart fell silent; he wrenched open the door and went out into the night.

Eben picked up the scattered cards and resumed his game of solitaire.

CHAPTER VIII
THE MICROPHONE

Hobart could not sleep that night. He went to his bed at midnight, and an hour later heard the sound of some one moving on the beach, and looked out, and perceived a dim and shadowy shape. He identified it as the figure of a man, carrying a canoe upon his head and shoulders. The man went toward the water. There was a hitch in his movements that identified him as Scour.

Hobart slipped downstairs to the veranda, but before he could reach the beach the canoe was gone. He took the Peanut and rowed gently out into the bay, careful to make as little noise as possible, his ears alert for the sound of a paddle. But he heard nothing; and at length returned to shore.

But he had no more thought of sleep, and so remained hidden in the shadows of the veranda, waiting for Eben's return. While he waited, the fog lifted and the bay was revealed, and then the stars broke thru the mist. Across the bay came the tolling of the bell-buoy, and the bug-light flashed at him.

While he watched, these flashes became irregular. Hobart was so absorbed in his own desperate thoughts that it was a moment before he realized this; but when he did, he leaped into the living-room and found an electric torch and brought pencil and paper to take down the message the light flashed.

He noted the letters as they came without attempting to interpret them; and only when the light resumed its regular winking did he study what he had written. The letters the light had flashed were:

"—-H-J-K-O-O-P-M-N-S-H -T-I-Z-H-X-E-R-T."

The earlier part of the message, Hobart had failed to catch and that which he had caught had no meaning for him. He shut off the electric flash and remained, watching and waiting.

There was a stabbing flash from the direction of the light on the monument; and seconds afterward Hobart thought he caught the faint concussion of a shot. He leaped to his feet and peered into the night cursing the cloud of darkness which hid the waters of the bay.

But no second shot followed the first, no other flash broke the black curtain. The bay slumbered serenely, the waves splashing on the pebbles, and slapping the boat where it lay at its moorings so loudly that the sounds came easily to Hobart's ears.

Eventually, he heard a paddle thump upon a thwart; and a few moments afterward a dark shadow lay upon the water before him. From his hiding place on the veranda, he watched Eben Scour land and return the canoe to its place and then go up the hill to his cottage.

Hobart was trembling with the mystery and silence of the night; and for a further time he waited on the veranda. Once he caught the distant bark of a muffled motor, and once he thought the wind brought the creaks of oars, but he could not be sure. In the end, he dozed, then slept in the big chair where he had seated himself; and when he waked it was to see the sun's round rim just peering above the island across the bay; and save for a four-master whose sails flapped idly where she lay at anchor at the river mouth, the waters of the bay were empty of all shipping. A great stump drifted down with the ebbing tide past the cottage, and Hobart took the Peanut and rowed out and towed it ashore for some future bonfire.

Landing, he found Eben Scour at work on the canoe. The lame man was sewing a square bit of canvas upon the canoe's side; and when he had finished, he painted it over, ignoring Hobart's curious eye. When Eben had gone up the hill again, Hobart walked over to the canoe and examined it.

A bullet had entered just beneath the gunwale on one side, had emerged at the waterline on the other. The hole on the waterline was the one Eben had patched.

"He was at the monument last night—when the signal was flashed," Hobart whispered exultantly. "He's a spy—spy."

Bill Marks, in boots, old felt hat and taffy-colored "jumpers," came down to the beach to work upon his breakwater, which he was extending toward low water mark in the hope of catching enough sand and gravel for a respectable beach. Hobart walked that way.

"Morning?" he called.

Marks bowed gravely. "Good morning," he responded.

"You're up early," Hobart jeered, for Bill Marks was a notoriously late sleeper. Marks raised his hands despairingly.

"There you go," he protested. "Always starting a fuss. Why—early—why—well, there—"

Hobart laughed. "Listen," he said, "I've something on my mind."

"It must be microscopic."

Hobart was puzzled. "Why—"

"It would have to be to get on a mind like yours." Marks enjoyed his own humor with a malicious delight. Hobart grinned.

"You remember the bug-light was out of order the night of the bonfire?" he asked.

"Yes."

"It was out of order again last night."

"I didn't see it."

"After midnight."

"Well—it's a pesky thing, anyhow. And there's no need of it. We don't have any shipping in here at night."

"Funny thing, too," said Hobart casually. "Its flickerings were all arranged in accordance with the Morse code."

"What do you mean?" Marks asked quickly.

Hobart explained. "When one flash was skipped, I called it a dot. When two were skipped, a dash. On that system, the light spelled out—letters."

"A message?"

"Code. I could read the letters. Here they are." He showed Marks the record he had kept the night before. Marks studied it thoughtfully, made no comment.

"I happened to be up, watching," Hobart continued. "Eben Scour was up, too. He went out in his canoe, an hour or so before the light began to—act queer."

"Out in his canoe?"

"Yes—after midnight, this morning."

"He must—like the water."

Hobart nodded. "After the light got thru—acting up—I saw the flash of a shot over near it—heard the report. And—there's a bullet hole thru Eben's canoe this morning."

Marks took off his hat and wiped his forehead and looked about them, at the

(Turn to Page 20)

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Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE. Denver, Colorado.

Making Sugar at Home

I noticed an article in our home paper about making sugar at home from beets grown in the garden. Please send me particulars about how to do this, as I want to do my share in sugar saving and if we can make it at home why we can get along without buying any.—Mrs. T. F. S., Crowley county, Colo.

If you raise sugar beets on the farm it is possible to make your own syrup and sugar, but if you are trying to grow enough beets in a garden you will be disappointed with the results. In our issue of July 15, 1918, we published an article on this subject in which we quoted Mr. H. Mendelson, agricultural advisor for the Great Western Sugar company as stating that it would require approximately 100 pounds of beets to make four pounds of sugar. You can readily see that in order to make a sufficient quantity to be of help, say 80 to 100 pounds, not less than a ton of beets would be required. This shows the impracticability of trying to grow beets in the garden for a home sugar supply. Your garden can be put to better uses in growing crops that do not have to be manufactured to be fit for food. In making syrup from sugar beets the difficulties are not serious and this may be done on any farm where bects are a part of the regular cropping system. We have been informed by people who have tried it that the syrup is not very palatable unless the cooking is very closely watched and all scum is dipped from the mixture as rapidly as it rises. Full directions for making sugar beet syrup will be found in Farmers' Bulletin No. 823, copy of which may be had free by writing to the United States Department of Agriculture at Washington.

About Pinto Bean Prices

I understand that the government set a price of 8 cents per pound to the bean growers for the 1918 crop. Have seen numerous articles on beans, marketing the crop, etc., but not a word as to the price. About two weeks ago I asked a bean buyer what he was going to pay for beans. He said 6 cents a pound, and I suppoae thia same man will sell for 12 to 15 cents a pound, and the ultimate consumer will have to fork up 20 cents or more. I read an article in a farm paper calling down the farmers who wanted more than 8 cents for their beans. I believe the article was in Western Farm Life, but it may have been in another paper. Now, how much is the farmer entitled to for his beans? It is high time this question was settled.—H. E. G., Washington county, Colo.

As stated in our issue of September 15th, the 1918 crop will not be purchased by the United States Food Administration. There were other articles in the issue of October 15th. We do not recall having published any statement "calling down farmers who want more than 8 cents for their beans." However, we believe an 8-cent price would be universally satisfactory to the growers. This was the price paid by the Food Administration last spring for the 1917 crop.

The Food Administration held down retail prices in the eastern markets by publishing fair price lists, so that the pinto beans for which our farmers got 8 cents on a re-cleaned basis were sold mostly at about 12½ cents a pound to the consumer. This was done by eliminating speculation and fixing the profit of the bean handler at 10 per cent. Publication of fair prices for the consumer will be continued, and as near as we can learn, there will be no material change in these prices. The grower, therefore, should have about the same as he got last spring, namely, 8 cents on a re-cleaned basis.

This is merely our opinion of the situation. The market quotations have been considerably lower recently. The only means at hand for the grower to get a square deal on bean prices is to act thru the Colorado State Bean Growers' Association. Circulars are now being sent out by the Colorado office of markets, a branch of the U. S. Bureau of Markets, reviewing the market situation and calling attention to the necessity for a closer organization of growers in their own protection.

Damages for Thresher Fire

This fall I had a man threshing for me with a steam outfit. We had about 30 bushels threshed when the engine set the stack on fire. I asked the owner of the machine to pay for damage done. He said he did not have any to pay; that he was right with the law. He claims the law says for him to have a 150-foot belt and that he had to use his spark catcher only when he pulled between stacks, and did not have to use it while he waa threshing, which I cannot believe. What I want to know is can I collect damage by law or is he right about it?—W. F., Washington county, Colo.

I know of no statute tha provides for spark arrestors on threshing machines. The case here would depend upon the facts. If the owner of the machine was negligent in the handling of his machine and the stack was destroyed, then he would be liable. What is negligence, of course, is a question of fact for the jury to decide, and that depends upon the facts of the case.—Hamlet J. Barry, attorney, 724 Equitable building, Denver.

Not Liable for Debts

If there is a judgment against you and a few bills in another atate, can they bring them up against you when you are making final proof on your homestead, or will they have to wait till you get your patent on same.—D. S. R., Colorado.

Section 2296 of the Homestead laws says: No lands acquired under the provisions of this chapter shall in any event become liable to satisfaction of any debt contracted prior to the issuing of the patent therefor.

Crop Damage Punishable

Kindly mail me copy of law defining lawful Colorado fencc. What is the law regarding letting cattle run loose on the roads? We have a field planted to fall wheat. Pigs and chickens from a neighboring farm run over this field and, if it continues, will ruin a couple of acres of wheat for us. What protection will the law give us? Ia there a law in Colorado against hogs and chickens running at large?—A. H., El Paso county, Colorado.

There is a paragraph in the fence law not included in the definition of legal fence, which forbids the running of cattle or other farm animals on any road, lane, or public highway that is fenced on both sides with a legal fence. This law does not, however, include poultry. There is no law against letting chickens run at large in the State of Colorado. Many of the towns have city ordinances which, however, only govern within the limits of such towns. In regard to pigs, there is a law which forbids their running at large from which we quote the following paragraph "No hogs or swine shall be permitted to run at large and the owner of any hogs or swine trespassing on the property of any person shall be liable in treble the damages occasioned by such trespassing, or a fine of not less than $5.00, nor more than $10.00 for each offense."

You will note from the above that your neighbor is liable for damages inflicted on your wheat by his pigs, but not for any damage that might have been done by chickens. We would suggest that you file complaint with your county attorney or your county food administrator, as the matter of damage to food crops is being severely dealt with under the U. S. Food Administration regulations.

Destruction of Crops Serious

Answer to Farmer, Boulder County, Colo.: If you had an agreement with your neighbor to let him use the land in question to produce a crop of corn, you have no legal right to invade his field until the corn is harvested. On account of the war, destruction of crops, even by the owner of such crops, is an offense punishable under the U. S. Food Administration regulations. In a case of this kind we would suggest that you seek to amicably adjust the matter with your neighbor because the responsibility rests on him as well as yourself to produce as much food as possible. His failure to take off the corn crop is interfering with your plans to put in fall wheat, and if he does not wish to take it off he should let you harvest the crop. If you are unsuccessful in adjusting the matter, then you should take it up with the food administrator of your county.

Homesteads For Soldiers

Have the young men under 21 who have been called to the colors the right to take up homesteads? I have heard that such a law has been passed.—T. C., Larimer county, Colo.

The amended draft law provides: That any person, under the age of 21 years, who has served or who shall serve in the army or navy of the United States during the present war, shall be entitled to the same rights, under the homestead or other land and mineral entry laws, general or special, as those over twenty-one years of age, now possess under said laws: Provided, that any requirements as to establishment of residence within a limited time shall be suspended as to entry by such person until six months after his discharge from military service. Selection of lands can be made by those called in the draft and entry made prior to departure for service or before their commanding officer wherever serving.

Warnocks Win in Idaho

The cattle owned by D. Warnock & Sons of Loveland, Colo., known as the "Model Type Shorthorns," have won a string of prizes at the Idaho State Fair, held at Boise City. Their imported Advocate's Model, a fine two-year-old bull, won first prize and also was made senior champion bull of the show. May Bloom won first prirze for aged cows. Their junior yearling heifer, Model Lady, won first prize in her class and was made junior and grand champion of the show; she also won first class of her type at the Montana State Fair. Other winners were Model Roan Lady, a junior heifer calf, first prize, and Aladdin's Heir, a senior yearling bull, first prize. Their cattle also won two seconds, five thirds and four fourths at the state show. This herd is well known in the West and has a long list of winnings at various fairs and shows to its credit.—Record Stockman.

What Is the Liberty Loan?

It's succor and life for a bleeding world.
It's the glimmer of Peace at dawn.
It's the strength of a mighty arm to strike.
It's the gleam of a great sword, drawn.
But, more than all, it's the pledge of love
To the lads whom we call "Our own."
To the boys on land, afloat, on high,
It's the good old "Money from home."

—Ralph E. McMillin.

Political Advertisement

The Republican Party was born to a great mission. That mission was to preserve republican institutions, destroy oppression and establish justice. To these same high purposes it solemnly dedicates itself today.

The Republican Party of Colorado and all the Candidates named herein stand for and are pledged to support:

A Conclusive Victory for America's Armies.

Unswerving Loyalty to the Nation's Cause.

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Denver is the Highest Market **Most of the Time** and the Best Market **All the Time** for Western Cattle and Sheep.

Time and again cattle have sold on the Denver market for higher prices than the same cattle would bring same days at the Missouri River.

Why don't you market your cattle and sheep at Denver, where they will bring you greatest net returns?

Douglas County Stock Sale

Douglas county's first annual sales day in connection with the county fair at Castle Rock, was held October 10. The offerings included some carlots of exceptionally fine breeding cattle, many individual animals of good dairy breeding, both cows and bulls, and some miscellaneous articles such as an automobile, a driving team, harness and farm wagon, etc. Prices were decidedly favorable to the buyer, for the reason that outside bidders were not numerous enough to put life into the auction. However, as a first sale it was a success, establishing the fact that Douglas county farmers have a surplus of livestock to offer in the fall of the year that should bring buyers in from long distances, when once these sales are widely advertised.

Among the contributors to the sale were the following: Richard Dillon, Ed Sidensticker, Rupert Spooner, O. S. Varner, Curtis & Son, A. H. Shelton, and Henry Lowell.

Twenty head of Shorthorn breeding heifers offered by Ed Sidensticker were started at $60 and sold to H. Bert Cave of Parker for $70.50. They will be put in shape for the National Western Stock Show at Denver, and as they are an exceptionally fine bunch will be heard from in the competition there.

Richard Dillon offered 20 head of Hereford breeding heifers from a herd that won several prizes at the National Western, some of the get of a half brother of the great sire Wyoming, and they were bid in by Bert Everett of Castle Rock at $78.

Another lot of 27 Shorthorn cows and two calves, all bred to a registered bull, the lot being three year olds, were picked up by Henry Singer at $66.50 per head.

These prices were too low for the quality of the stuff and the buyers were lucky for lack of competition, the audience being made up largely of home people who had stuff to sell.

The individual offerings went no better. A local man picked up Douglas Lad, a registered Milking Shorthorn bull, aged three years, out of the Varner herd for $70. Good Milking Shorthorn grades were knocked down to bidders at figures that ran from $70 to $90. Some of these cows were easily worth $150 and could not have been bought for less at private sale.

A registered Holstein bull calf, donated to the Red Cross at the State fair in Pueblo by P. K. Hudspeth, who has one of the best herds of that breed in the state, was practically given away for $31. This calf brot over $300 at the State fair auction for the Red Cross and was sent to Castle Rock by Captain Hardy, the last purchaser, in the effort to find a good home for it. Mike Wyatt of Sedalia, who has Milking Shorthorns, bid it in, but resold afterwards to H. Bert Cave, who will give the calf a home on his Parker ranch.

There was plenty of life in the Red Cross offerings with which the sale opened, the home people spending liberally in the purchase and resale of a stallion and a burro. Farmer Putnam was there, and he will write about the details of that part of the sale, which netted various war activities nearly $500 in cash.

Let the Real Farmers Speak

At the fruit growers' meetings, the farm bureau and grange picnics and other gatherings of farm folks, the agricultural college and experiment stations are ahly represented on the programs. There are speakers from the Food Administration at Washington, the State Department of Farms and Markets, and various other departments and commissions. The governor is frequently heard. Political aspirants to something better for themselves are usually on hand with a few remarks, in which farmers are praised for their good work in increasing production and advised to stand by the "patriots" in the legislature and congress during these perilous times, and the man with an axe to grind who wants to get appointed on some commission, or already drawing a good salary from the government, wants to inform the farmers that he is making good, is on hand with a speech full of patriotism and promises.

But where are the practical, working farmers, the men who hold no office and do not officially represent any institution, association or society—just plain farmers?

The Rural Life man attends many meetings of farmers throughout New York and other states, for the purpose of gaining first hand information from the business farmers' viewpoint. But we must confess that we are usually disappointed in the puhlic addresses. The farmers are not on the program. They are not heard. And the only way we can get their viewpoint upon the questions under discussion is by conversing with them on the outskirts of the crowd.

This is wrong. It is not fair to the farmers. They should be heard. They should be given a chance to speak, and the men who have the program in charge should see that they do it.

We would be willing to travel a long way to attend a meeting of farmers, by farmers and for farmers, where every man on the program is a practical farmer who makes his living directly from his farm, and the college professors, the editors, politicians, office holders and office seekers, legislators and all others who are not farmers are cordially invited to sit in the rear seats and listen instead of talk. Let them hear what the farmers want direct from the farmers, instead of trying to tell the farmers what the Food Administration, or other organization thinks they should have.—Rural Life.

Wise Mabel

Louise, nine years old, asking her mother—"Where is papa going?"

"To a stag party," she replied.

"What is a stag party, Mama?"

Sister Mabel, seven years old, who had been listening, with a dignified attitude: "It's where they stagger. Don't you know?"—Pittsburg Sun.

The Most Used "Blade"

Teacher (at object-lesson)—"So now, children, you know how a knife is made. I want you, Marjorie, to tell me which is the most important part of a knife."

Marjorie—"Er—er—er—"

Teacher—"Well, I'll help you. What part of his knife does your father use the most?"

Marjorie — "The corkscrew." — Pearsons.

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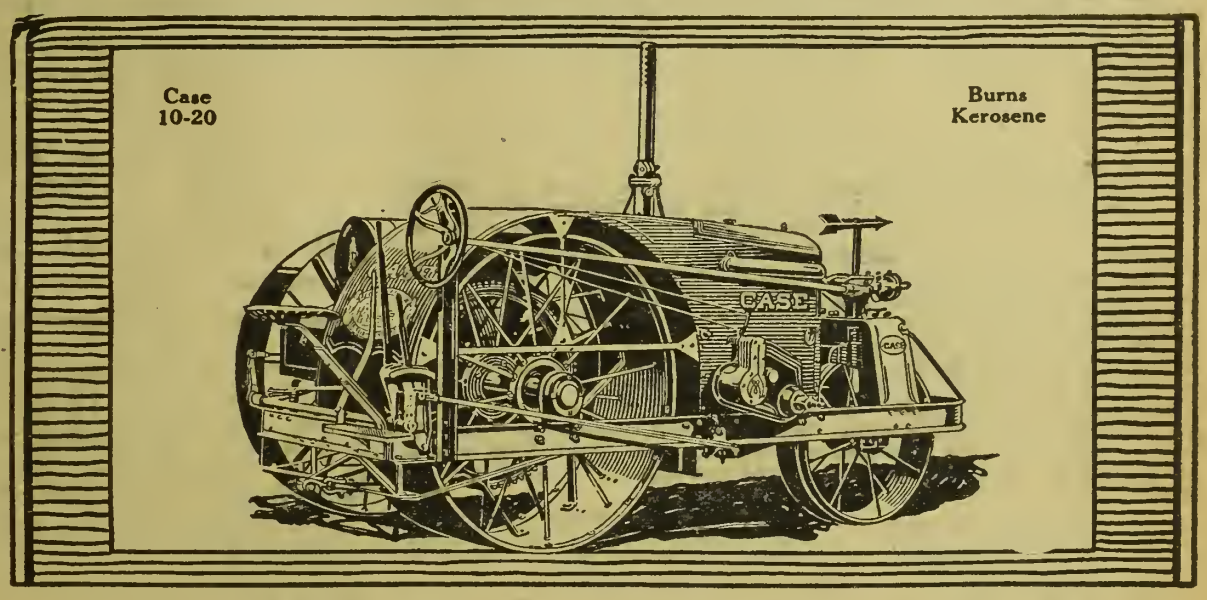

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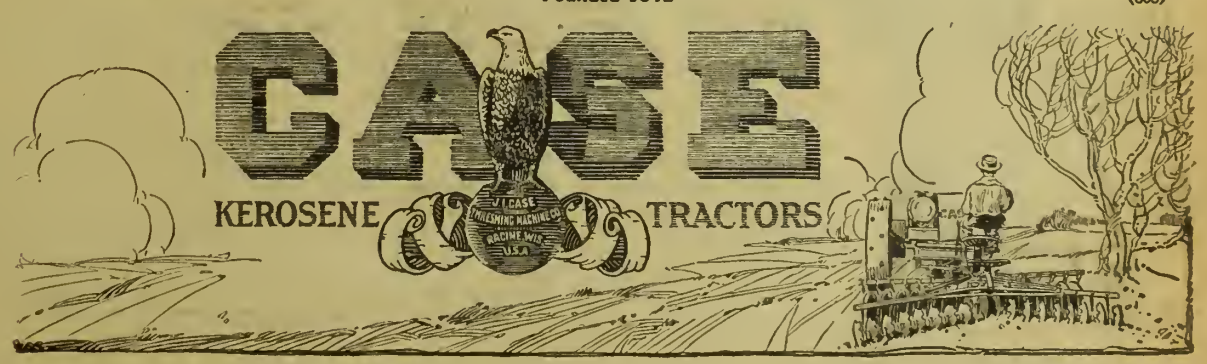

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Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Lessons from the Swine Show

The one outstanding feature of the National Swine Show this year was the fact that good, big hogs have arrived. During the earlier years of the change to the large type hog, so many men went to extremes in trying to get size that they disregarded many other fundamentally necessary points in a hog; but other breeders have gone ahead seeking size, but also developing other good points along with the size. A number of the mature Poland-China boars at the show weighed over a thousand pounds, and they were broad, deep, heavily hammed hogs.

The Poland-China seems to have led the other breeds a little on securing size, accompanied by fattening ability. They have, however, in their hurry for size, allowed faults, such as weak backs and poor eyes, to creep into the best herds; and it is going to take a long time to eliminate these faults. Two or three of the under-a-year Poland-China boars weighed at 13 months of age right at 600 pounds, and they were not the rail-splitter type. They were well fleshed breeding stock. When pigs can be produced to such a weight at that age, it looks to the man who wants to produce barrows to be marketed at six to nine months of age at not over 300 pounds weight, that size enough has now been gotten in the best stuff, and we must emphasize other important points equally with size.

Mature Durocs are 100 to 200 pounds lighter than the mature Poland-China, so that the Duroc men are still justified in emphasizing big animals, but I was glad to see that the bulk of the stuff at the show were strong in the back and pretty well developed in the ham. Pigs under a year and under six months in age that were the extreme snaky kind were shown the gate, and animals possessing substance, as well as strength and length of leg, were put up. All of the best breeders are striving for pigs that are very long in the body and high on the leg, but some have seemed to think that these two requisites were all that are necessary. The best breeders are building magnificent bodies on the top of these long legs, and they want the length of leg and back, because these points indicate an animal that will keep on growing longer than the short-legged chubby animal. They want, nevertheless, an animal that will show reasonably good flesh at all stages of his growth.

In going after the big type in Durocs, good pigs are pretty generally the rule; but some men have sacrificed feet, and have made future grief for themselves because the big animal must have feet to carry the heavy weight to which he attains as a mature animal. Some of the big type that show well and win high honors in the young classes are never exhibited as mature animals, because, by the time they are over two years of age, they are standing with their feet clear in under them and their dew-claws touching the ground. A number of prominent Duroc breeders, however, are still cranks on good feet and legs, and these men are selecting blood lines to get the size without sacrificing the feet.

Chester Whites were a splendid show, and the Chester Whites possessed great size before either the Poland-China or the Durocs. They were formerly a very coarse hog, but exhibit now good quality as well as size. They were at the show in large numbers.

The Hampshires were there also in considerable numbers, but the breed seems to have divided more sharply into types than the other breeds. The stretchy, growthy type of pig was, of course, the type of pig that went up in the judging.

Berkshires were at the show only in small numbers. They show beautiful character and have the real long body for which the other breeds are now striving, but the Berkshire men have not seized their opportunity and bred more weight into their stuff. In this breed, it should have been easy to attain, because of the natural length of body of the Berkshire.

Hundreds of breeders whose names are not known outside of their own states are paying thousands of dollars for boars. I attended one sale where the first two boars thru the ring sold at $1,750 and $2,250. I went into one pen on a farm where there were half a dozen boars of last fall farrowing, 13 months of age. The owner told me that he had been selling on an average of one a week of these at an average of $1,500 each. This, of course, was one of the best herds in the country. This same breeder told me that he had a large number of farmer clients who were paying about $250 for boars to use in grade herds for producing all barrows to fatten. This all shows the increasing value being put upon good blood, and should not only be encouragement to the small breeder but should make some farmers who are using inferior boars realize that the sire, who is responsible for fifty per cent of the pork making ability of the herd, is worth more than fifty dollars. Good blood costs money, and the man who wants it, must pay for it, but he will surely get the return on it.—G. E. Morton.

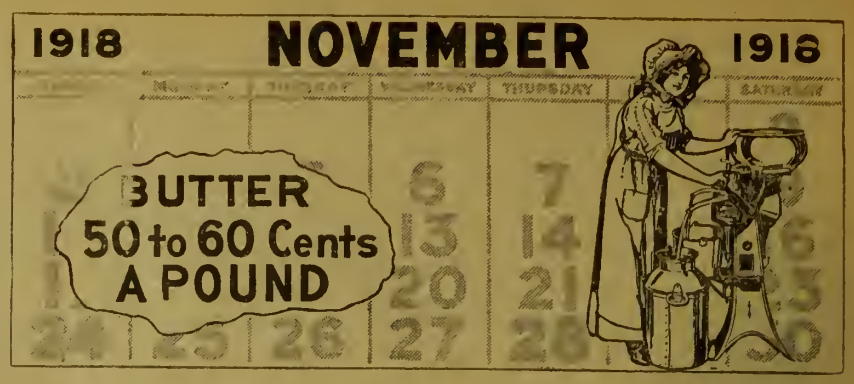
Financing Dairy Farming

What is known as a Big Brother Dairy Cow movement has been started in Las Animas county, Colo., with the backing of the board of directors of the Trinidad-Las Animas County Chamber of Commerce. The movement was suggested by County Agriculturist Charles E. Smith. It is organized for the purpose of putting the dairy industry in the eastern part of the county on a permanent footing by giving the farmers, most of whom are new settlers on homesteads, proper financial backing for the purchase of good cows. A $50,000 corporation has been formed and the first consignment of cows was on the way to the farmers when the present article was being written, about $12,000 having been underwritten before the first of November.

Contracts are made with the farmers for a period of four years on the basis of one-half the increase. The conditions required of the purchasing farmer include the following:

1. He must be a man of good character, industrious and established as a successful farmer.
2. He must have feed, shelter and water, and must contract to build or dig a silo before the 1919 crop is harvested.
3. He must be able to unite with at least three neighbors in securing a good registered bull, either thru the company or with the approval of the company.
4. He must agree to keep records of each cow; at least the weight of her milk, and the income from the herd.
5. He must agree to vaccinate calves for blackleg.
6. He will receive all benefits from the milk, will be assured (by purchase if necessary by the company) of a heifer calf for each cow the first year, and for these considerations will agree to replace any loss from the original herd.
7. If the farmer allows any calves to result from range bulls, they shall be counted on his share.

The chief points in the contract are



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as follows:

1. Cows placed with farmers on shares, each (company and farmer) to receive one-half the increase.
2. Farmer receives all milk and is assured by the company of a heifer calf for each cow at least the first year.
3. Farmer replaces loss in original herd from his portion of the increase.
4. Heifer calves purchased subject to division as tho natural increase.
5. No grade bull calves to be saved for breeding purposes.
6. Steer calves need not be kept more than one winter unless farmer desires.
7. Heifers to be retained to end of contract period which is four years from time of purchase.
8. The company retains title to all cattle during contract period, but at its discretion may allow some of the stock to be sold, if farmer is unable to properly care for it.
9. All calves must be vaccinated for blackleg.
10. Barb wire fences around pastures must be grounded to protect against lightning.
11. A circle of farmers in a community must purchase a registered bull thru or with consent of company. They must use the bull or one equally as good, of the same breed. Allowing cows to breed to range bulls will subject the farmer to loss in his breeding operations, as he will be asked to take the range calves for his part.
12. Farmers must weigh the milk from each cow, keep record of same, and also keep a book showing butter fat record of the herd determined from cream checks.
13. Farmers must have feed, shelter, water and agree to dig or build a silo before harvesting the 1919 crop.
14. Farmers must agree to consult the county agent on all points of care, breeding and disposal of steers, as the agent will be expected to report to the company.
15. All cattle and calves to be branded with a company brand.

These terms insure a good class of dairy stock,, good care and feeding and consequent profits for the farmer, thus developing a dry land section that can produce good forage crops every season. Eastern Las Animas county this year produced an enormous tonnage of rough feeds, and there is little stock in the section to eat it. Good dairy cows, with silos, will utilize the crops and make the farmers self supporting, while paying off the indebtedness incurred in cow buying. The men who furnish the funds are making a good investment. It is a clear-cut business proposition all the way thru.

Wild Sunflower Ensilage

Mention has been repeatedly made in these columns concerning the growing of Russian sunflowers for ensilage. We expect to publish during the coming winter results of feeding such ensilage to dairy cattle.

Now comes a new development reported in the New Mexico Farm Courier, the official publication of the College of Agriculture of the neighboring state. The item concerns the cutting of wild sunflowers which have been put into a silo for experimental purposes in feeding. The New Mexico college is making extensive experiments in the utilization of prairie and desert plants hitherto considered to be troublesome weeds. The long drouth in the southwest has caused feeders to turn to some of these unused plants, ncluding the Yucca or Mexican soap weed. The Russian thistle has already shown its adaptability as rough feed for stock when cut at the right stage. or when put into the silo mixed with cane or kafir. Possibly the wild sunflower, which has spread over into this state from western Kansas and infests many grain fields, is useful as a feed when ensiled. However, it had better be fought as a weed because, like the Russian thistle, the damage it does far outweighs any value it may possess as food for cattle.

The item from the New Mexico Farm Courier reads as follows:

"The New Mexico College of Agriculture and Mechanic Arts recently astonished the citizens who pass along Camino Real by cutting down the wild sunflowers that grew by the roadside, hauling them into a silo. Professor George R. Quesenberry, in charge of the colloge farm work, has grown the Russian sunflower on the college farm and gathered the wild sunflowers from the roadside, and has a large silo filled, the contents of which are now fermenting into the choicest of silage. This will mean great financial benefit to the state of New Mexico, as the wild sunflower has heretofore been considered a pest. The college will soon show that it has great economic value to New Mexico. The Russian sunflower, in from seventy-five to eighty days, will yield twenty-five or more tons of prime ensilage per acre. It is the intention to conduct experiments with a great many of the weeds, grasses, and shrubs that grow in New Mexico as some of these look very promising."

Control of Hog Cholera

During the fiscal year ending June 30, 254,731 head of swine were inspected and immunized against hog cholera by inspectors of the Bureau of Animal Industry at public stockyards and were shipped to country points for feeding and breeding purposes. The average weight of these animals at the time of immunization was approximately 100 pounds. Probably 250,000 of the number were shipped for feeding purposes and later were returned to the markets at an average weight of 250 to 275 pounds, giving an approximate total increase of from 37,500,000 to 43,500,000 pounds of pork.

Many years ago light-weight hogs and piggy sows were sold at the markets as feeders and breeding animals, respectively, and shipped indiscriminately to all sections of the country. This practice spread hog cholera infection thruout all swine-raising sections and was one of the causes of the staggering losses from that disease. The department thereupon issued an order prohibiting the interstate shipment of hogs from public stockyards except for immediate slaughter. The effect of that order was that all light-weight hogs—some of them young sows suitable for breeding—sent to the markets were slaughtered, and the pork which would have been produced, had they grown to maturity, as well as the potential breeding value of the sows, was consequently lost.

In addition, the fact that many of these animals were not especially desirable for slaughter made them bring comparatively low prices, frequently resulting in actual loss to the shippers.

After the serum and virus treatment against hog cholera was standardized by specialists of the department, an order was issued permiting swine to be shipped from public stockyards for feeding or breeding purposes when they had been given such treatment under the supervision of a department inspector. However, it was required that treated swine should be held in the yards 21 days before shipment, this period being later reduced to 14 days. The cost of feeding the animals during the quarantine period was so great that the traffic did not reach any considerable proportions. But with added knowledge and experience in the control of hog cholera, and amplification of state laws governing its control, the department thought it safe to permit the shipment of treated hogs at once to points in states which have regulations requiring that such animals be held in local quarantine until 21 days have elapsed since the date of treatment. The order permitting this became effective on January 2, 1918.

Previous to that date, shipments of immunized swine had been comparatively few, while since that time the number has grown rapidly. No doubt is entertained that as the facilities for handling such animals are improved and the general knowledge with reference to hog cholera is increased, the traffic in stocker and feeder hogs from public stockyards will have a steady growth and will become a tremendous factor in the production and conservation of food.

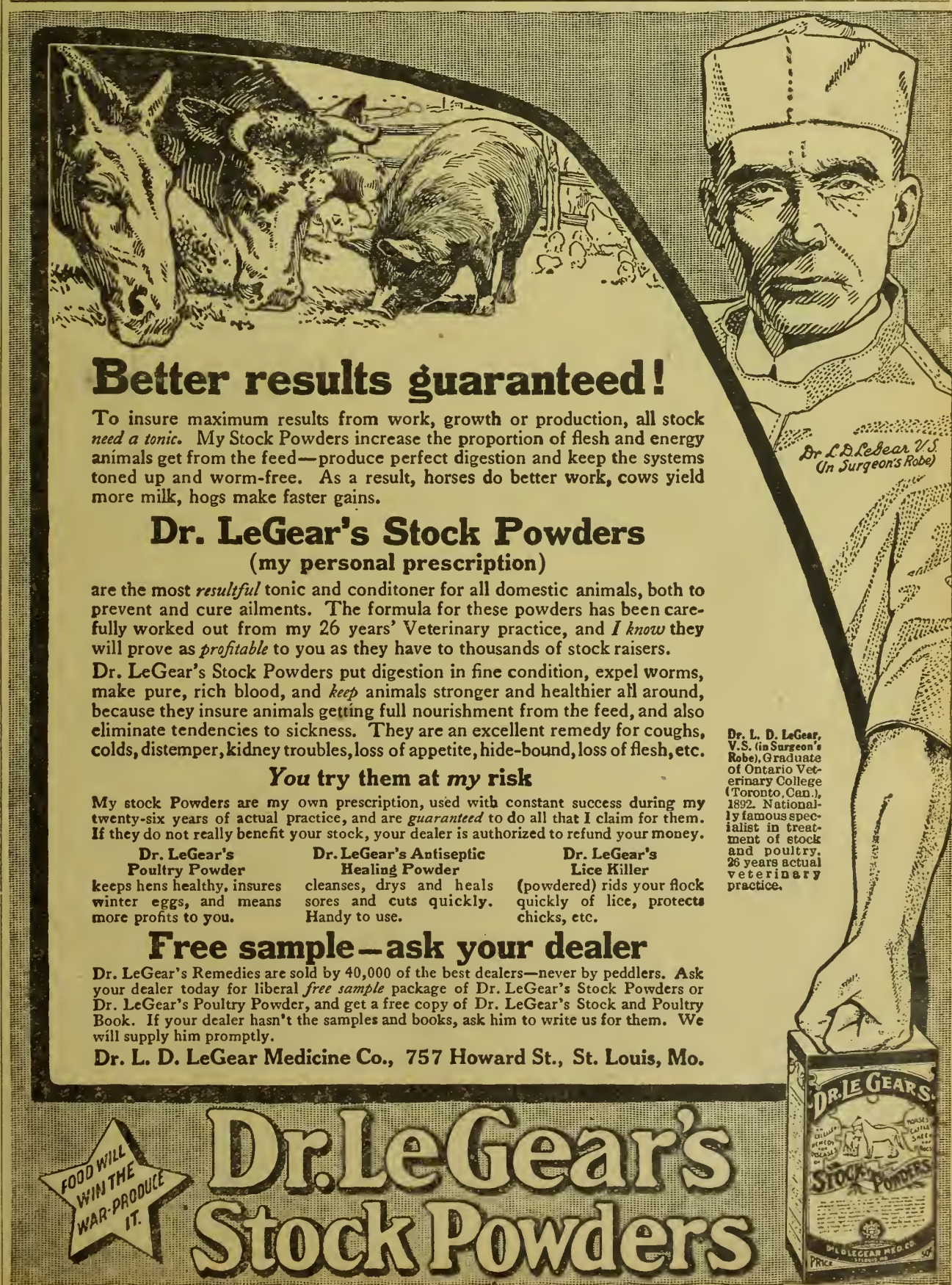
Farmer Putnam on Silos

I seen Lafe Larcom a-goin' to the store t'other day with a sack on his shoulder and I sez: "Lafe, what you luggin' in that sack?"

He sez: "Pinto beans. I've sold off my cows and hain't got no butter, so I'm tradin' them beans fur a pound of it."

"You'd better brot a waggin load," sez I.

Lafe sold his cows because feed was too high and went to raisin' cash crops; now he's tradin' his cash crops fur somethin' to eat. If he'd done what I told him and dug a hole in the ground and walled it up with concrete he would-a had a pit silo to put his corn in this fall and he could-a kept his cows and got some of that high-priced butter and cream money hisself. Lafe don't believe in silos. He sez silage makes the cow's teeth fall out, and it's too hard to milk anyhow in cold weather. All right, Lafe, you keep on raisin' wheat and beans and you won't have so many chores durin' winter; you won't have to go to the bank so frequent either, to make deposits of milk money. I'd a heap ruther do milkin' chores fur a fiew years then be totin' all my cash crops off fur the other feller to make cash out of.—THOMAS JEFFERSON PUTNAM.



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Farm Home Department

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Thanksgiving—1918

Erma Douglass

Two years ago at this season many of us were thankful because we were still out of war, last year we were thankful mostly because the President made a proclamation asking us to be thankful; but this year, well, what are you the most thankful for, anyway? For that steady, tho hard won drive toward the Rhine, the crops around you, or the fact that it's pretty good weather for fall wheat? There is due and just cause for rejoicing this year and we really ought to make a day of it—not as the small boy's idea of Thanksgiving used to run, "to see whose belt would bust the soonest"; but to show to the world a quiet, purposeful enjoyment and gratitude for the good things Providence is sending our way.

Considering the real benefits a great many of us have derived from the food conservation program, there ought to be some propaganda for sane and safe celebration dinners as well as for safe and sane celebration noises. Our time-honored customs of turkey with cranberry jelly and a wind-up of two sorts of pie, with fruit and nuts beside is only time honored after all. But if a soldier from any of our allied armies could honor your table this year for the consideration you have shown in not using the things he needs more than you do, or for not demanding that traffic sending him munitions be stopped in order to send you special foods, you may let time and time's honor drop out of your consideration. It isn't a case of depriving ourselves of all enjoyment and chastising the flesh by a bread and water sort of eating for this Thanksgiving dinner, but a case of getting the most satisfaction out of what we have close by. You may have a turkey on your farm that you have planned on eating this particular day. Then eat him; but if you haven't, then roast that big fat hen who has decided not to lay any more this fall. Cranberry jelly IS powerfully good with the meat; but wild grape or wild plum or just plain tart apple jelly is just as good and comes from nearer home. Sweet potatoes are high and rather hard to get. If you are not altogether southern, hubbard squash, baked with just a little butter and corn syrup rubbed over its surface makes a very toothsome substitute. The pumpkin pie is an easy matter on most farms and shouldn't be forgotten.

Don't forget to use part wheat substitute in the crust as well as in your breads for the day. For a white bread use either cooked rice or potatoes and for all sweetening purposes the honey or corn syrup will save your sugar. Instead of candy the fruit roll made by combining raisins or dates with equal parts of nuts and other dried fruits, ground and moistened with honey or corn syrup, will cut into very delicious cubes, if mixed and allowed to stand over night in order to harden.

The two menus following are merely suggestive of war-time Thanksgiving dinners and are really samples of possibilities and probabilities on farms you are all acquainted with.

MENU 1.

Roast chicken Dressing
Mashed potatoes Gravy
Baked squash
Tart apple jelly Mustard pickles
Cabbage, apple and celery salad
Pumpkin pie

MENU 2.

Flank or round steak rolled with dressing
Stuffed baked potatoes
Steamed brown bread
Stewed corn
Pepper relish Jelly
Apple and nut salad
Ice cream
Devil's food cake
(using honey or corn syrup)

These are not elaborate, will not even take much of a housekeeper's time from other work the day before; but they are wholesome meals the boys at the front would be glad to eat with us. We need to stop and give thanks, not as in past times for mere prosperity, but as a fighting nation which has battled valiantly and which is gaining strength to fight still further.

The Story of a Soldier's Mother

The following story is told by Mrs. Henry P. Davison, an ardent worker in the Y. W. C. A.

In an Illinois prairie town lives a widow who launders seventeen baskets of wash a week and every night thanks God for having put pity into the hearts of women. To her came one day a letter from her only son. He was then at Camp Funston, learning to be a soldier. The letter begged her to come and see him before he was sent to France.

The mother opened the tin bank in which she had been hoarding her dimes and quarters against this day. The money was scarcely enough. Nevertheless she started. She walked the first eighteen miles. Then her strength gave out and she took a train.

She did not know that visitors to Camp Funston stay in Junction City, eleven miles away. So she got off the train at Fort Riley. An officer set her right and she reached Junction City after dark. Somehow she found a rooming-house. Some one there stole five dollars from her—five of the precious dollars she had earned over the washtub and saved by walking. Terror-stricken, she crept out of the house when no one was looking.

Later in the night a soldier found her trembling in the street and took her to the rooms of the Young Women's Christian Association, rooms which the War Work Council had opened as a clearing house for troubles. The poor, frightened woman was put to bed, but she was too miserable to sleep. The matron got up at daybreak, built a fire and comforted her. The son's commanding officer was reached by telephone early in the morning and the boy came to his mother on the first trolley car he could catch.

The two spent long, low-voiced hours together, perhaps the last hours they will have this side of heaven. Every moment was as precious as a month had been last year.

The old lady had still one present worry. The boy's bad cold might turn into pneumonia if she left him. But she had not money enough to stay another night and buy a ticket home. When the matron told her that her bed was free, she broke down and cried and cried.

"I did not know there was so much pity left in the world," she sobbed.

She stayed till her boy's cold was better. Then she went back to her seventeen washings and her memories.

The next big drive, which is coming early in November, is that for the benefit of the various organizations engaged in caring for the social and moral welfare of the soldiers in cantonments and at the front. Mothers whose sons have gone to war need no suggestions as to what to do and others who have not been called on for the big sacrifice surely will give without stint.—KATE RUSSELL.

Stabilizing Butter Prices

A conference was held recently by Mr. Hoover, the United States Food Administrator, with some fifty leading representatives of the dairy interests, including members of the Agricultural Advisory Board to consider the present situation in dairy products. It was the unanimous opinion of the meeting that in view of the large army, navy and allied demands there was a temporary shortage of dairy products in the market, especially butter. It was also agreed that the present prices of butter not only bear hardly upon the consumer but are not in the best interests of the producer, as they tend to diminish consumption and to permanently stimulate the increased consumption of margarine, which is about one-half the price. It was agreed that these conditions would sooner or later produce a collapse in butter prices to a point possibly below the cost of production. It was considered essential, for stable condition of the industry, that when such a fall did occur the Government purchases should be used to support the market at a reasonable level.

Save Fruit Pits for Gas Masks

Every American has the chance for direct war service that will save the lives of soldiers. Carbon is needed to make millions of gas masks for the American army. Cocoanuts have furnished much of this material, but cocoanuts mean ships, and during the present shortage material for carbon must be found nearer home. The pits of apricots, peaches, prunes, olives, dates, cherries plums and the shells of Brazil nuts, hickory nuts, walnuts and butternuts make carbon for masks that will outlast the most diabolical of the German gases.

Here is work for all, every home, church and school. See that the work is started in your neighborhood. Place collection boxes in schools, churches, banks and stores, and above all, in your own home so your boys and girls can see the pile grow. It takes 200 peach stones or seven pounds of nut shells to furnish carbon for a gas mask and save the life of an American soldier. Dry the pits and shells before turning them in to the nearest Red Cross chapter. This organization is in charge of collecting all material.

Great Majestic

"The Range with a Reputation"

The Nation's needs come first

The U. S. Government must have metal for *ships*, munitions, guns. Help win the war by helping to

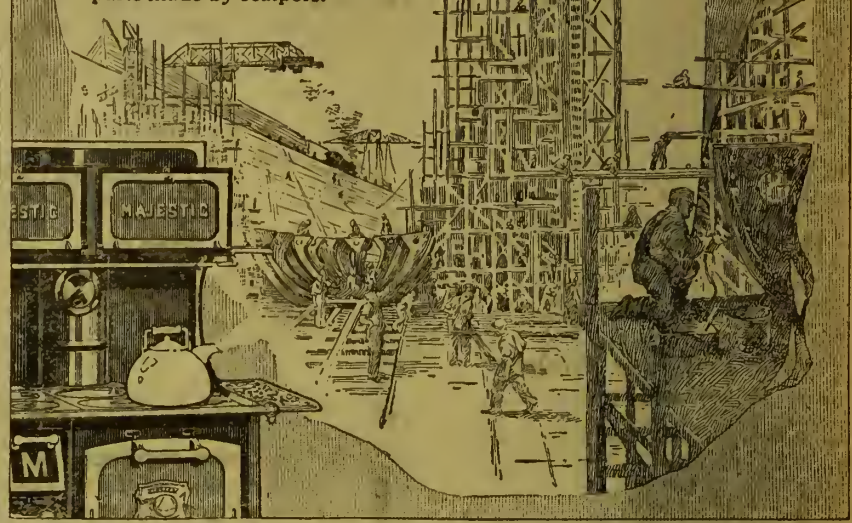
save iron and steel—don't buy a new range

now unless you must. Put the old range in good repair, and get along with it another year. If you can't, then buy a Majestic—the range that saves fuel because it is heat-tight, saves food because it bakes right, saves repairs because it is built of *unbreakable malleable iron and rust-resisting charcoal iron.*

Sold by leading dealers in every County of 42 States.

Majestic Mfg. Co., Dept. 231 St. Louis, Mo.

Caution: If your Majestic needs new parts, get them from a Majestic dealer, and insist on genuine Majestic materials—not light, inferior parts made by scalpers.



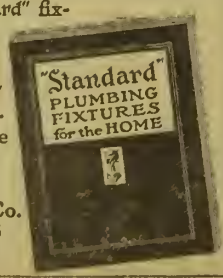
Genuine Home Comforts

IN your new home or when remodeling and modernizing your present residence, provide for one of the material comforts of life—

"Standard" Plumbing Fixtures

If you have running water, you should install these modern conveniences—Bath Tub, Lavatory, Kitchen Sink and Laundry Trays. All these splendid fixtures made by the house of experience are genuine home comforts. They add to the joy of living.

Consult your contracting plumber. Ask about "Standard" Fixtures, which represent highest quality, long manufacturing experience and a wide variety of styles to meet your requirements. The green and gold label on each "Standard" fixture insures satisfaction. Write for a free copy of "'Standard' Plumbing Fixtures for the Home."



Standard Sanitary Mfg. Co.
Department 236
Pittsburgh, Pa.

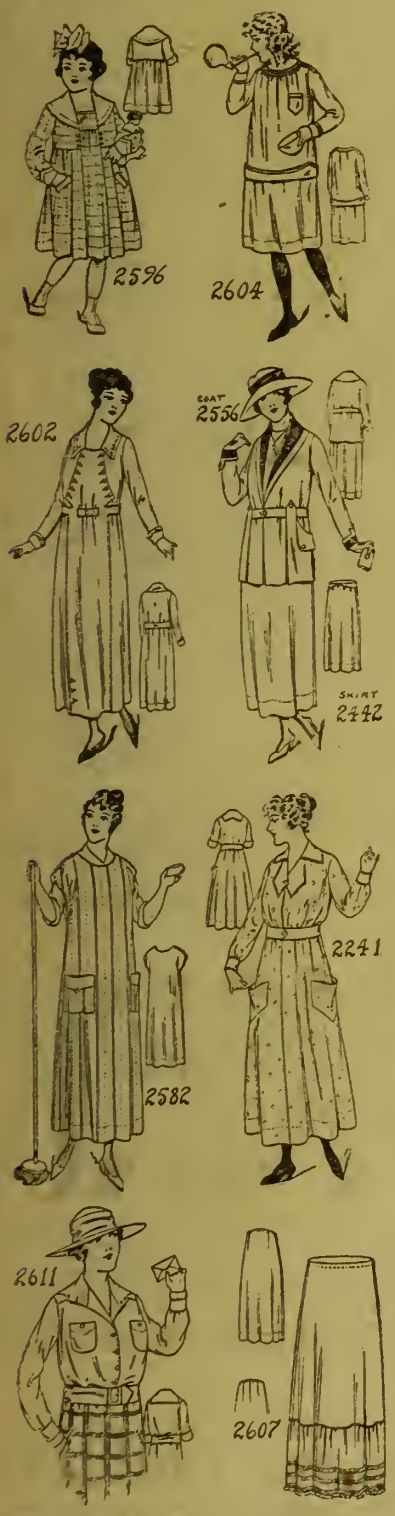
PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2596—A Classy Model. It is nice for gabardine, plaid suiting, serge, galatea, gingham, chambray, percale, velvet or silk. The closing is effected at the left side. The sleeve may be in wrist or elbow length. Cut in sizes of 4, 6, 8 and 10 years. Size 6 requires 2¾ yards of 36-inch material.

2604—Popular for the Growing Girl. This model is fine for all wash fabrics, for plaid suiting and serge combinations; nice for velvet, satin, gabardine, or voile. The closing is effected on the shoulder. Cut in sizes of 8, 10, 12 and 14 years. Size 12 requires 3⅞ yards of 44-inch material.

2602 Ideal Model for the Busy Woman. It may be fastened with snap hooks. The fulness over sides and back is held in place by the belt. The model is in one piece style and good for serge, velvet, satin, poplin, jersey cloth, and all wash fabrics. It is to be recommended as a good dress for business and general wear. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 will require 5 yards of 44-inch material. The dress measures about 2⅛ yards at the foot.



2556—Coat. 2442—Skirt. A Stylish Suit. Comprising Coat Pattern 2556, and Skirt Pattern 2442. This will make a splendid suit in Jersey cloth, gabardine, broadcloth, serge, satin, velvet or corduroy. For separate skirt and coat one could have plaid or check suiting for the skirt, and serge for the coat. The collar of satin or velvet or of the material of the skirt. The pockets are a new feature. The vest of the coat may be omitted. The Coat Pattern is cut in 7 sizes: 34, 36, 38, 40, 42, 44 and 46 inches bust measure. It requires 4¾ yards of 40-inch material for a 38-inch size. The Skirt is cut in 7 sizes: 22, 24, 26, 28, 30, 32 and 34 inches waist measure. Size 24 will require 2⅝ yards of 44-inch material. The skirt measures about 1⅞ yard at the foot. This illustration calls for two separate patterns.

2582—An Economical Apron. You may have this serviceable garment in gingham, seersucker, drill, nainsook, batiste, lawn or alpaca. It is closed on the shoulders but can be slashed at the center of back or front for a closing. Cut in sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44-46 inches bust measure. Size medium will require 4¾ yards of 36-inch material.

2241—A Practical House Dress. This style is good for percale, gingham, chambray, seersucker, serge, repp, voile, flannelette, drill, linen and galatea. The model is a one piece style, with the fulness held in place by a belt. The skirt measures about 2⅝ yards at the foot. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 36 requires 5⅝ yards of 44-inch material.

2611—A Splendid Waist. This will make a good business waist. It is nice for flannel, satin, taffeta, poplin, repp, madras, linen or batiste. The collar is convertible and may be closed in high neck style or rolled low as illustrated. The sleeve is wrist length, has a close-fitting cuff, rolled back to form a turnover. The short sleeve is finished with a wide turnback cuff. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 2½ yards of 44-inch material.

2607—A Comfortable Underskirt. This is a good style for cambric, muslin, lawn, nainsook, batiste, satin, silk, alpaca, gingham, seersucker or flannelette. The flounce may be omitted. Cut in sizes 22, 24, 26, 28, 30, 32 and 34 inches bust measure. Size 24 requires 2½ yards of 36-inch material without the flounce, or, 3⅝ yards of material with the flounce.

The Grange

Offices 1616 Arapahoe St., Denver
C. W. SWAYZE, Editor

The Colorado State Grange has acquired the business of the Bon I. Look Company at Fifteenth and Blake streets, and combined it with the Grange Stores Company, the consolidated concern carrying a stock of $230,000, which is now available to members of the big farmer's organization as a part of their direct buying system. Announcement of the deal was made recently by Otis Scruggs, State Purchasing Agent of the Grange. Mr. Scruggs has just returned from the East, after closing a contract with the Independent Implement Company of Plano, Ills., for the establishment of a branch house in Colorado, to be opened in this city, adjacent to the Grange Stores Company's new location at Fifteenth and Blake. Under the terms of the contract, Colorado Grangers will have the privilege of buying implements at wholesale, the same as they are now purchasing their home and table necessities and farm supplies thru the organization.

Mr. Scruggs has given the matter of direct buying much study and a year and a half ago, when he was appointed State Business Agent, he put some of these ideas into effect. Things started in a very small way by the organization of what is known as the Grange Stores Company, then having headquarters in the Charles building. Nine rooms were occupied there in a short time with stocks of goods. Business grew so rapidly that a move was necessary. Larger quarters were secured on the ground floor at 1616 Arapahoe street. This move was made June 1st, following which the Grange Stores Company procured a state charter, organizing with a capital stock of $100,000.

"We soon found," said Mr. Scruggs, "that even with our enlarged quarters we were not equal to the demand from the farmers of Colorado and neighboring states for groceries, dry goods, boots, shoes, leather goods, lubricating oils, greases, talking machines, automobile supplies, hardware, implements and a thousand and one other things that the farmer has to buy. Negotiations were started for the purchase of the Bon I. Look mail order business, and with the present announcement we come into possession of the $230,000 stock.

"I have just returned from a trip East where I made a contract that will bring to Colorado a new implement concern, the Independent Company of Plano, Ills. They will establish a warehouse and supply the members of the Colorado State Grange with all of their implements. They will carry in stock at Denver all parts and supplies, so the farmer will not be obliged to wait to have them shipped from the factory.

"We have been working on this proposition of direct buying for a year and a half and expect to save the Grangers many thousands of dollars annually in their purchases. The saving so far this year on the amount of business transacted is 27 per cent, as compared with regular retail prices.

"Another feature that will be of benefit to the state, as well as to purchasers, is the fact that money heretofore sent to Eastern mail order houses will be kept at home. Few people have any idea of the tremendous amount of cash that has been going to Chicago and Kansas City from the farmers of Colorado in the past. Those who hold membership in the Grange now have the privilege of buying in the state at Eastern mail order prices, with much quicker and better service."

The value of baking powder is based on its *leavening strength.* You can't judge it by the size of the can—or by the *amount* you get for your money. You must estimate it by the amount of baking powder *used* in each baking and the *results* you get.

CALUMET

is the greatest value ever offered in Baking Powder—it has greater raising *"force"*—it *goes* further than most of the other brands. You use only a rounded or heaping teaspoonful where others call for two teaspoonfuls or more.

But Baking Powder is not all you'll save when using Calumet. You save baking *materials.* Calumet *never* fails. The last *level* teaspoonful is as powerful as the *first.* Calumet is perfectly manufactured—*keeps* perfectly—and is moderate in price.

You save when you buy it—You save when you use it

One trial will satisfy you of these facts — will demonstrate beyond doubt that "Calumet spells economy."

Your grocer sells it on a guarantee of money back if you are not pleased with results.

Calumet contains only such ingredients as have been approved officially by the U. S. Food Authorities.

HIGHEST QUALITY AWARDS

War Work of the Morgan County Boys and Girls

(Continued from Page 3)

grade pupil of one of the rural schools, who is caring for ewes and lambs and keeping a record of the wool and mutton to be marketed. The object of this is to teach the advisability of sheep raising on the average irrigated farm.

Poultry work is flourishing, a number of flocks being handled by the boys and girls, the object being commercial poultry production. This is participated in by Fort Morgan young people as well as by the boys and girls in the rural schools.

The canning club work has been looked after particularly by Mrs. Hale, who took a team to the state fair at Pueblo, the young ladies being Lillian Schrack, Amenta Ambrose and Vanetta Hanscom. They gave an excellent demonstration and won fourth prize in the state contest.

The sewing clubs have been knitting comforts and doing other war work under competent instruction. This includes patching and rejuvenation of old garments along lines followed in all patriotic households during these war times.

Twenty-five graded rural schools are included in district No. 3 and naturally their graduates come to the Ft. Morgan high school where they may obtain, in addition to the classical and business studies, technical instruction in agriculture along with advanced practical work as club members.

It was the writer's pleasure to meet the patrons of the school district and the club members in the high school auditorium and to tell them something concerning the origin of club work in the United States. At that meeting I promised the boys and girls a personal message from Will B. Otwell of Carlinville, Ill., who started corn club work in that state about 20 years ago. That message has since been received and it is reproduced on another page. Mr. Otwell's work has inspired thousands of young men and women with high ideals and caused them to devote themselves to the upbuilding of rural life.

His influence has been truly wonderful, because he has come in touch with many, many thousands of young people and directed their thoughts toward the better things of rural life, awakening an interest by showing them the pleasure in watching things grow. I am sure his message will be appreciated by all you boys and girls in the mountain states engaged in club work. He has promised us a visit some day and I hope he may be able to meet many of you face to face.

School District No. 3 is under the supervision of Prof. W. A. Franks, superintendent of schools; Prof. I. E Stutsman is principal of the Fort Morgan high school and Mr. Hale is instructor in agriculture in the high school and supervisor of club work for the entire district, comprising the town school and the twenty-five rural schools. Progressive business and professional men serve as directors of the school board, men with vision who are working for the future of a community that relies for its prosperity on agriculture. The members of the board are Dr. R. L. Park, president; W J. Mallory, C. W. Ballard, H. C. Giese and R. L. Paterson. The treasurer is J. P. Curry and S. H. Rathbone is secretary.

THE WHITE IS KING

Buy a new White Sewing Machine direct from the White Company. We pay freight and accept in payment Liberty Bond full face value. Write for catalog.

Used Drophead Machines, $8.00 to $25.00 —Singers, New Homes, Frees—many others.

WHITE SEWING MACHINE CO.
1531 Champa St., Denver, Colo.

Fur Trapping by Homesteaders

More frequently than not the homesteader goes forth to his task from the cities. Consequently, tho four-footed wealth is almost sure to surround him, he may not think to trap because it is foreign to his training. Or he may, for the same reason, think that trapping is only for the experienced.

If these things fit the reader, let him by all means revamp his ideas and take up trapping, especially this season when the highest prices ever known are being paid for every kind of fur. Homesteading is productive of more hard knocks than shekels in the first lean years and a few hundred dollars picked up during the winter season should be welcome. And picked up they can be in very many instances. In the nature of things the average homestead is ideal for trapping because it is in outlying territory where game is thickest. Contrary to the idea of many, trapping is one of the unfamiliar arts that may, to a large extent, be learned from books. Of course, mere reading won't produce a skilled trapper, but reading plus a little practice and perseverance will. There are definite ways to set traps for each kind of fur bearer, definite baits to use and the animals have certain fixed habits. These facts are comprehensively and clearly stated in the trapping literature supplied by the big fur houses and no great study is required to grasp the essentials.

After you have read the details of a set for badger for instance you can go out and make it. Maybe the first attempt won't succeed, but reasonable perseverance will. The essence of the thing is that trapping is not a mystery, not hard to learn. And the profits to be made are large and absolutely certain. The market for furs is wide open, with an almost clamorous appeal for furs, furs, and more furs. So if the homesteader wants the ready cash, let him write to the several big fur houses for their guide books and counsel and their traps. Enough of an outfit to start a few traps, stretchers, bait, etc., costs only a few dollars, and an actual survey of well related trapping methods will prove how sane and sensible a proposition it is for the inexperienced to become experienced.

Ship Furs To S. Silberman and SONS

Bigger demand for furs of all kinds this year. Prices are way up. And Silberman prices top the market.

We can't fill orders. We need furs quick. Get our easy-to-understand price-list and see the record prices we are paying.

Ship to the leading house in the best market. Fifty-two years of treating trappers fairly. This is "the house with a million friends." We grade highest and send "the check that satisfies" by return mail, always.

No Broker's Profits— No Commissions

ALL the money for you. Silberman now buys direct from trappers. So get started shipping quick for big money. Try us and see for yourself.

Write to us today for all facts—guaranteed price list and profit-sharing plan. Make us prove to you that we pay more.

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Capital Over $2,000,000.00
1117C W. 35th Street, Chicago

TRAPPERS

A POST CARD WILL BRING IT TO YOU.

THIS BOOK WILL HELP YOU

To Trap and Hunt, with profit. It shows *when* and *where* to trap, and how to prepare skins, to make the most money from them. *The Boys and Older Men at Home Will Have Control This Year.* There is *Big Money* to be made. There is a great shortage of skins. Prices will be very high. *The War* has shut off foreign shipments. Our house is situated to pay you all your skins are worth. We will grade them honestly, and give you a *Square Deal.* We have standing orders that we cannot fill. *Send name and address,* for the Book. *Hides* wanted, write for Price List.
LINCOLN HIDE & FUR CO., 1006 Q Street, Lincoln, Neb.

Trapped

(Continued from Page 13)

water, the sky.

"Y'know," he said thoughtfully, "if that wind doesn't work around into the southwest, we'll have some rain before night."

"What do you make of—Eben?" Hobart insisted.

"What do you?" Marks parried.

"I think he's probably a spy," said Hobart simply.

Marks chuckled. "Huh!" he grinned. "There's an old fellow up town, Charlie Marvell. He likes his rum, but he's always sorry afterward. When he comes to, he'll say: 'By gum, I'll never touch another drop o' that stuff as long as I live.' And about that time, he'll realize what he's saying, and he'll re-'Prob'ly.'" Bill laughed tumultously, throwing his head far back. "Say, it's funny to hear that man," he declared.

"You know—our army will be going to France shortly," Hobart insisted. "The Germans will try to stop them. What's to prevent them having a fleet of submarines at the rendezvous along this coast somewhere—ready to go out and strike when they get word from some spy on shore that the transports have sailed."

"That would be a good scheme," Marks agreed. "There goes the bell. My breakfast's ready"

Mrs. Marks was waving a cowbell from their cottage on one of the emplacements of the old battery. Bill toiled that way. "I'm coming," he called. "I'm a coming."

Hobart went back to his own breakfast. He could not put Eben out of his mind. His own shameful defeat the night before was stifled and forgotten as he convinced himself that Eben was a spy. He determined to watch the little man unceasingly.

The Barbette is a quarter of a mile from the main road, and the rural free delivery does not leave the main road. Wherefore, a single mailbox received all the Barbette mail at the head of the lane which led from the colony to the road. It was no one's task to go for this mail. The one most anxious was usually the one to go. On this particular day Hobart climbed the lane to the box.

There was a packet of a dozen papers and magazines for the various cottages, and a score or more of letters and postals. Hobart ran thru these, sorting them so that he might deliver them to each cottage on his return; and thus he discovered the postal card for Eben Scour, and turned it over to read the message.

It was from the express company, notifying Eben that a parcel had arrived for him, and that since the Barbette was outside the delivery limits, he must call for it.

There was nothing surprising or unnatural in this; but Hobart was of a mind to see wrong in everything that concerned the lame man. Eben was away from his cottage when Hobart left the postal there. But that afternoon when he set out for town, Hobart followed discreetly.

He saw Eben hire an automobile, go to the express office and secure a heavy box which he deposited in the machine. The car drove off toward the Barbette, carrying the box and Eben. When Hobart returned there was a sound of hammering in Eben's cottage.

Hobart watched all that afternoon without making any fresh discovery. Rain began to fall at dusk; and the darkness that followed was absolute. The people of the Barbette stayed indoors, driftwood fires banishing the chill and dampness of the evening.

Only Hobart was abroad. In oilskins, boots and sou'wester, he stood behind a clump of alders fifty yards from Eben's cottage and watched—for he knew not what. His vigil lasted for more than two hours. Even when Eben's lamp was extinguished, he still waited; and in the end he was rewarded.

Eben's door had a rusty, squeaking hinge. Hobart heard this door open After a little, he began to hear faint sounds—metallic—mysterious.

He could see nothing. The night was too dark for that; and the sounds that came to him were muffled by the drumming of the rain. Nevertheless he waited, ears and eyes straining.

It was neither of these senses but a sixth sense, indefinable, which warned him that Eben was near where he stood. Hobart ceased to breathe, became motionless, a part of the night. Little by little he separated Eben's dark figure from the surrounding darkness; and he saw that the little man was kneeling in the shadows below the alders.

Eben's cottage stood fifty yards from the water. In front of it ran a driveway; and above this drive there was a deep ditch that served as drain. The ditch ran as far as the alder clump, then turned down hill and ran along a fringing line of alders to the sea-wall, where it emptied, in flood times, a considerable stream upon the beach. Eben was busy in this ditch; and while Hobart watched, the lame man pressed for an instant the button of a flash lamp he held.

In this instant of illumination, Hobart saw that the little man was laying a heavily insulated wire in the bottom of the ditch, pressing it into the mud of the bottom, out of sight.

Eben worked slowly down the hill, leaving Hobart behind; and after a time Hobart followed.

Without being discovered he was able to watch Eben lay the line of wire down the ditch to the sea-wall. There Eben rose from his labors, hesitated for a moment, and then went back up the hill

Hobart started to follow; but half-way up the hill he met Eben returning; and he saw that the little man bore a burden of some weight. Hobart stood motionless till Eben passed him in the darkness, then followed again.

Eben deposited his burden on the sea-wall, lifted his canoe, and bore it to the water. Then he returned, and with the help of a flash now and then from his electric torch he connected the end of the wire he had laid in the ditch to another wire which was attached to the burden he bore. He uncoiled this wire straight down the beach; and he laid rocks upon it here and there, and scraped gravel over it, until it was lost among the seaweed which covered the lower half of the beach.

Then he laid the thing he had carried down the hill in his canoe and shoved off

Abraham Fur Co.
St. Louis, Mo.

America's Leading Fur House

Furs Are Worth Big Money

Furs will be higher than they have ever been in the history of the fur business and the Abraham Fur Co. will again be the leaders in paying trappers more money for their furs than they can get from any other fur house in the World.

We were the only large fur house in the United States that made a gain in number of shipments received last year; all others showed a decline. Why? **Because trappers everywhere have found out that it pays and pays big to ship furs to Abraham Fur Co.**

Anybody can tell you how high furs are but we will show you with real money. Send us furs you have on hand now.

For many years we have made a specialty of handling early caught furs and we can pay you a better price for this class of furs than ever before.

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and paddled out toward the mooring where the rowboat lay.

He passed out of sight thus.

When Scour was gone, Hobart remained for a moment at a loss; then with a sudden inspiration he turned and hurried up the hill toward Eben's cottage. The door was unlatched, it opened under his hand. He closed it behind him and stood in the black dark within the little cottage.

He crouched and found a match and lighted it, shielding the flame between his cupped hands; and in this meager light he looked about him.

An open box stood on the floor. Excelsior was strewed about it. The box was empty.

Hobart turned to the table and his heart leaped.

On the table lay a coil of wire, one end leading out the door, the other connected with a metal band like the earpiece of a permanent telephone, with a receiver fast at either end.

Hobart lifted this, fitted it to his head, dropping his sou'wester on the floor as he did so. Thru the receivers he caught a faint, scraping sound—a humming, then a discordant jar.

"What the devil—" he whispered to himself.

He stripped off the head-piece, lighted another match. Then for the first time an open letter upon the table caught his eye. He glanced at the letter-head, read:

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And the first line of the letter caught his eye:

Dear Mr. Scour:

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The match burned out. Hobart slipped to the door, out, away. He had seen enough.

CHAPTER IX.
LIEUTENANT MORSE.

A summer at the Barbette was usually a quiet affair. The little cluster of cottages was well off the main road, and no one came down the lane that led to the Barbette unless he had an errand. The grocer's truck appeared once a day; the ice man came twice a week; and every morning a gaunt farmer from the hill above the Barbette drove down behind his gaunt horse and followed by his fat dog and delivered the day's supply of milk at the various cottages.

But these were matters of routine; they did not disturb the quiet of the place. After breakfast John Benton and Elbridge Hurley roared away to town in their cars for the day's business there. When they were gone the Barbette settled down to a sleepy morning. Herb Lewis was always reasonably industrious, and he worked steadily at the task of shaping his cottage and breakwater to his liking. Bill Marks hunted odd jobs to do and planned enough work to last him three summers ahead—playing cards on the coolest veranda while he planned. The housewives did the housework; the children followed the retreating tide, prattling like sand-pipers as they tilted on the pebbles. When the tide esrved every one went swimming. In the afternoon there was tennis; or, if it rained, cards.

This summer had begun like every other summer; but things had happened to disturb the peace which was a part of the place. Even before the drifting dory with the dead man, a discord had appeared in the relations between Scour and Hobart; and this set tongues wagging and heads shaking wisely when the knitting needles clicked around the lamps in the evening.

Then came the dory, the dead man, and the excitement which that incident aroused shook the Barbette as it had not been shaken since the Boston boat went aground on the beach, just above the cottages, five years before. Since then recollection hung minor incidents on that event as on a peg; and the cottagers had said: "It was the year after the Boston boat went aground." But now they were already beginning to say: "It was the week before Hobart picked up that dory."

There was tension in the air of the place now. The open break between Hobart and Scour was plain for all to see; and Bill Marks and John Benton, who saw much and said little, had perceived that Hobart was spying on Scour. They took no hand in the situation; but they discussed it more than once. Benton was frank—when he talked to Marks alone—in saying that he disliked Hobart and liked Scour. Marks agreed to that, but, at the same time, he mistrusted the lame man—mistrusted and feared him. "There's something about him you can't put your finger on," he said.

Benton laughed, a shrill, exuberant chuckle of delight. "You ever hear that story about Nat Hobey?" he asked.

"The one about the minister?"

"No—this was another one."

"What was it?"

Benton laughed again. "Why, a fellow came along one day to buy a horse, and Nat took him out to the pasture and pointed out the worst horse in the lot—as he always did. The fellow looked around for himself, and he picked out a fine-looking animal, and he asked: 'What's that one worth?'

"Old Nat says: 'You don't want to buy that critter? He eats an almighty lot, and he's a slow worker and a slow mover. Oh, he's a no-count horse!'

"The man looked in the horse's mouth, and he looked him over, and he thought the horse looked pretty good; but old Nat went ahead and told him a string of things the matter with that horse. None of them 'mounted to much; and finally the fellow said: 'Well, put a price on him.' So Nat said all right; and he named a stiff price. That made the fellow think the horse was a good one, after all; so he took him. Next day he came back leading the horse. He was hot: 'Say,' he yelled at Nat. 'Why didn't you tell me this horse was a stall-breaker?'

"Old Nat scratched his head. 'There,' he says. 'I knowed there was somethin' I forgot to tell you about the horse. Tried to rec'lect it; but I couldn't put my finger on it—at the time.' And the fellow had to keep the horse."

Marks chuckled. "That's the way with Scour," he agreed. "There's something mysterious about him."

But they got no further than that; and Scour remained a perplexing figure. Hobart was watching him closely; but since the night when he saw the lame man install the microphone he had discovered nothing more. Eben was staying close to his cottage. One night, thru a chink in its flimsy walls, Hobart saw him playing solitaire at the table, with the ear-pieces of the microphone clamped in place, listening while he played. Hobart watched him for fifteen minutes, but in that time Eben made no move except to shuffle and deal and play.

It was the next day that Lieutenant Morse came to the Barbette. He took a small cottage belonging to John Benton, next door to the Outpost, where Mrs. Marshall and Anne were living; and within the hour the Barbette knew that he was a naval officer on two weeks' leave. He was married, with one child. His wife was an inoffensive little woman; the baby was a girl who liked to sit in the pebbles and arrange them in endless combinations about her; and the lieutenant himself was a small, somewhat sappy man, with a small mustache, a weak mouth, and watery blue eyes. He was as friendly and confidential as a child. The Marshalls—even Mrs. Marshall—made friends quickly with the newcomers; and the Barbette wondered at this since Mrs. Marshall had shown no inclination to be friendly with others.

Eben Scour met the officer on the afternoon after his arrival. He was standing by the steps of the Marshall veranda talking to Anne when the lieutenant came toward them carrying a pie-tin. "Mrs. Morse wanted me to thank you and your mother for that pie," he told Anne. "It was fine."

"Mother loves to cook," Anne told him. He smiled a little awkwardly.

"We like to have her cook—since she is so liberal," he said.

Anne took the pie-tin. "Do you and Mr. Scour know each other?" she asked; and the officer and Eben shook hands with a word of acknowledgement. Then the lieutenant returned to his cottage. Anne looked after him thoughtfully. 'He—doesn't look like one—fitted to command men, does he?" she asked.

Scour shook his head. "Not exactly."

Mrs. Marshall called to Anne, and the girl turned into the cottage. Eben crossed to the veranda next door where the naval man had dropped in a chair and picked up a book and sat down on the steps with a casual word. "How long will you have here?" he asked.

"Two weeks," the lieutenant told him. "I wish it were two months."

Eben nodded. "Fine place," he agreed.

"Every one is so—cordial," the officer commented.

"Yes." Eben smiled a little. "Yes—every one is very cordial. Have you met Nelson Hobart?"

"Mr. Benton introduced us this morning."

Mrs. Morse and the little girl came out on the veranda, and the liteutenant introduced Eben, and then the woman and the child went down to the beach together. Hobart came from his cottage to join them there a moment later, played with the baby for a space, then climbed to the veranda with a nod of cool greeting to Scour.

"Morning, Lieutenant Morse," he said.

The lieutenant was thrusting forward a chair, offering a cigarette. "Sit down, sit down," he urged. "Good of you to drop over."

Hobart grinned at Eben. "Scour and I are—inseparable. Where you see one of us you'll soon see the other."

Eben studied the young man thoughtfully; and Hobart challenged: "Isn't that right, Eben?"

"You're always right, Nelson, old top!" said Eben quietly.

The lieutenant seemed to sense something discordant in the interchange. He broke in with a rapid-fire of conversation. Mrs. Morse left the little girl on the beach and came up and sat with them; and after a time Anne Marshall appeared on the veranda next door, her mother beside her. Mrs. Morse called: "Won't you come over and sit with us?"

They came. "This is almost a reception," Anne laughed. "Hello, Nelson!"

Hobart's lips were white; his response was inaudible. Mrs. Marshall rocked comfortable in the chair the lieutenant had surrendered to her. "How long are you to be here?" she asked Mrs. Morse.

"Jimmie's leave is up in two weeks."

Anne looked across at the lieutenant. "I suppose you are—very busy now?"

The lieutenant nodded proudly. "Yes. We're working at top speed—all the time."

"With the army going to France soon you naturally would be," Mrs. Marshall commented. Hobart saw Eben Scour look quickly toward the lieutenant; and Morse replied:

"Yes—that's our big job now—to convoy them across."

"Do you—expect trouble?" Anne asked.

"We always expect trouble."

"Of course. That is—war," Anne agreed.

Eben pointed quickly. "See—that fish-hawk is about to swoop." They looked up to where the bird poised on fluttering wings, motionless in the air above them; but after an instant it drifted on up the beach.

"Oh—he's gone," Anne exclaimed regretfully. "I love to see them dive for the fish!"

Mrs. Morse looked toward Anne. "Jimmie is to go to France with the army," she said, pride struggling with anxiety in her voice. Mrs. Marshall smiled at her.

"You musn't worry about him, my dear," she warned. "He will come thru safely all right."

"Of course," Lieutenant Morse echoed eagerly; and Anne asked:

"What is your ship? Or—are you allowed to tell?"

He laughed boyishly. Why, of course. I'm on the Shenandoah—have to report to her at the Charlestown Yard in two weeks." He hesitated faintly; and Mrs. Marshall warned:

"We love to hear about what the navy is doing—but—you musn't tell us anything that would get you into trouble."

The lieutenant waved his hand. "Oh, this spy talk is all—talk. When you're among friends—"

Hobart watched Eben. He thought the little man was strangely intent, saw his eyes fixed on Morse. Anne asked: "Just how do you go about it to—protect the transports?"

"Destroyers and chasers swarming around them; a watch all the time. That's about all we can do. But—that is enough. We never lost a ship from the other contingents."

"Isn't that splendid!" Mrs. Marshall commented; and the lieutenant flushed with pleasure.

"Yes—we're proud of it," he agreed.

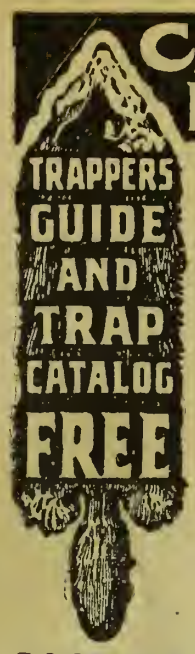
Hobart clenched his fingers. "I'd like to stow away on one of those transports," he said regretfully. "I'd give—a lot to be doing my share in France."

Morse laughed. "If you'd like to have a try at it," he offered, "we sail from Baltimore on the twentieth."

Eben rose swiftly; Anne uttered a low exclamation, and the officer looked around and saw condemnation, dismay, suspicion in their eyes. "Why, it's all right," he cried. "There's no—secret about it. When you're among friends."

Mrs. Marshall stood up stiffly. "Come, Anne," she said. "I—fancy we'd best go back to the cottage." She glanced at

(Turn to Page 23)



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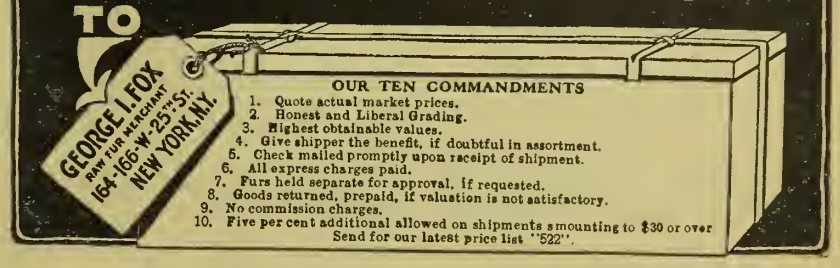

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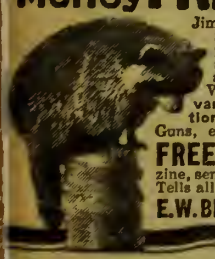

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Feeding will tell the story of eggs, providing the stage is properly set. Professor James Dryden of the Oregon Experiment Station, has some good things to say in a recent number of the Northwest Poultry Journal.

The first thing he says is that "No amount of good food or anything else will make some hens lay; they are not born to lay." He might have added that the man who does not find this hen, with or without a trap nest, is not familiar with his business. And, again, that not only will this particular "not built right" hen not lay, but the immature pullet and the old hen during this season, will not respond to feed. Again he says, "No amount of good feeding or anything else will make a good hen lay if she has not good housing or shelter." The man who does not get this, who does not understand that feed is fuel before egg material, also does not understand his business. A hen may continue healthy unsheltered, if well fed, but if all the food she gets is used up as fuel there can be no eggs. So the shelter comes in as a fuel saver and more or less surplus food goes into the manufacture of eggs.

Here is more of the article:

Food Affects Quality of Eggs

The hen is very particular about what she puts into the egg, so particular that probably no food could be fed that would render the eggs totally unfit for consumption. At the same time it has been demonstrated by experiments that food affects the quality of the egg, and that to produce eggs of the highest quality attention must be paid to the quality of the food.

Flavor of Eggs.—Heavy feeding of onions, for example, will give a distinct flavor to the eggs, making them almost unpalatable. Hens eating large quantities of beef scrap will lay eggs of strong flavor. These facts the writer personally demonstrated by experiment. No doubt other foods will also give a flavor to the eggs, desirable or undesirable. It is said that a diet of fish will give a fishy taste to the eggs.

It is therefore important that good, wholesome food be fed at all times.

Feeding Color Into the Egg.—It is possible by skillful feeding to flavor the eggs; this sometimes happens from unskillful feeding, as indicated above. It is possible also to "paint" them. The variation in the shade of yellow in the yolk is due to the difference in the food. The coloring of the egg shell is beyond the feeder's art, but food affects the color of the yolk, as we have demonstrated. A pen of fowls fed dried alfalfa leaves, produced eggs of good yolk color. A similar pen fed sugar beets instead of alfalfa leaves, laid eggs very pale in color. In an experiment at the Oregon Station, kale "painted" the yolks a good color of yellow. Experiments at other stations have shown that the feeding of yellow corn will color the yolk. When eggs are very pale in the yolk, it is a sure indication that the hens are not getting enough green feed. Clover, vetch, rape, grass, or other green feed, and doubtless certain grain feeds, will color the yolks. A yolk too highly colored is not desirable, and it is possible for the hen to eat so much of certain foods as to color it too highly. When the ration is properly balanced, this should not occur. Food therefore affects the quality of the eggs.

There is a close relationship between the food eaten by the hen and the eggs laid. That much we know. At the same time no one can say certainly what kind of foods or combination of foods will give the best results in egg yield. Chemistry doesn't tell us. Practical feeders do not tell us. This can only be determined by experimental work which will involve long and careful testing of different foods and different rations in actual poultry feeding. We know, however, that the egg has a certain composition, and we know that to produce eggs the hen must have foods containing the elements that the egg contains. Knowing the composition of eggs, therefore, we must study the composition of foods in order to feed intelligently.

The composition of the egg never varies; at any rate, not to speak of. The hen is an honest manufacturer, and she doesn't adulterate her product, even tho she may be fed adulterated food. She puts the same kind of food into each and every egg. If she doesn't get the right kind of food she won't make the egg.

An egg contains one-quarter ounce of protein. If the hen he fed on wheat and nothing else she may eat four ounces per day. Of that she will need about three ounces to supply her bodily needs. This leaves one ounce to make eggs with. In an ounce of wheat there is about one-tenth of an ounce of protein. Now, supposing the protein is all digested, which is not the case, she won't get enough protein to make half an egg a day. But an egg every two or three days wouldn't be so bad at certain seasons. The egg, however, contains other things. It contains also about one-quarter ounce of lime with which to make the shell. An ounce of wheat contains less than one-tenth as much as one egg contains. The egg also contains fat. It contains less than one-quarter ounce of fat, but the wheat would contain three-quarters ounce of fat formers.

What would be the result if the hen were fed on wheat alone? She would get enough protein to make an egg about every three days; enough lime to make an egg every twelve days and enough carbohydrates and fat to make three eggs a day. What will the hen do in such a quandary? She could put more fat into the egg to make up for lack of protein. She could make a counterfeit article, but she won't. Unless she has the right materials to make it with, she won't make the egg. She must get the right kind of food or she won't make the eggs. It is poor economy to feed wheat alone; the same thing is true of corn and nearly all the cereals. They are not "balanced" for egg production.

What is a balanced ration? A balanced ration is one containing the right kind of nutrients in right proportions for the purpose for which it is fed.

We must know the composition of foods before we can figure up a balanced ration. It may not be necessary in practice for the poultryman to figure up balanced rations for his flock. His experience, or the experience of others, or the results of tests at experiment stations, are a pretty safe guide for the poultryman; but in order that he may intelligently plan improvements in rations, and adjust his feeding to the available food supply, he should understand something of the composition of ordinary poultry foods.

What use does a hen make of the food she eats? In other words, what is the purpose of feeding? The first use she makes of the food is to supply the needs of her body. The maintenance of her body is her first concern.

The body of the hen, like that of other animals, needs constant rebuilding. There is a constant wearing or breaking down of tissues, and the food rebuilds the body or repairs its wastes. The work of the poultryman, therefore, does not end with the making of the hen, with the hatching and raising of the pullet; he must maintain her, and the skill of the feeder shows itself in so compounding rations and so feeding them that the health and vitality of the hen may be maintained. That is the first consideration of good feeding—the maintenance of health and vigor.

The second use to which food is put by the hen is to make eggs. After the body's needs have been supplied, if there is any food left, the hen will use it for the making of eggs. Eggs are made from surplus food. After she has eaten enough to supply bodily needs she turns her attention to the egg basket.

If we are feeding for eggs it is poor economy, therefore, to feed just enough to maintain the hen in health and vigor. We must feed more than that or our efforts will be wasted.

On the other hand, heavy feeding does not necessarily mean a heavy egg yield. In an experiment by the writer, two pens of fowls consumed an average of 75.6 pounds of food, not counting the green food, and laid an average of 167 eggs per fowl. With the same amount of food two other pens averaged 117 eggs each. The nutritive ratio was practically the same in each case. While the heavy layer must consume plenty of food, the manner of feeding and the kind of food must be taken into account. In other words, the efficiency of food rests largely on the kinds of food fed and the skill with which the feeding is done.

The Value of Food.—The value of a food must be determined largely by the amount of protein which it contains, and high prices should not be paid for food of any kind unless it has a guaranteed analysis of high protein content. Generally speaking, foods are cheap or dear in proportion as they contain a high or low percentage of protein.

Digestibility of Foods.—Another point should be mentioned in a study of foods. The composition does not always indicate the true feeding value of foods. The digestibility of food is the final determining factor. It is known that all foods are not equally well digested. One food may be more completely digested than another by an animal. In cattle feeding, it has been determined by experiment what percentage of different foods are digested. For instance, in 100 pounds of wheat, there are some 11.0 pounds of protein. Of that amount, less than ten pounds is normally digested, the rest of it passing thru the animal as waste material. It is the same with the other nutritive elements; part of them are wasted because the particular animal does not digest them wholly.

In the case of poultry feeding we are somewhat at sea. The digestibility of foods, when fed to poultry, has not been determined. The difficulty of collecting the droppings of the fowls without keeping the fowls under too highly artificial conditions, makes it very difficult to determine by experiment the digestibility of foods when fed to poultry. It is possible to find out how much of the food that she eats the hen digests and assimilates, or how much she makes use of. When this has been done, as it doubtless will be before long, it will be possible to build up a system of feeding on a more scientific basis. As it is, we do not know the true relative value of different foods when fed to poultry. The chemical composition of foods is the only guide we now have in the making of balanced rations for fowls.

Nutritive Ratio.—The nutritive ratio is the ratio of protein to fat and heat producing foods. For egg production a nutritive ratio of 1 of protein to 4 or 5 of carbohydrates and fat is a narrow ratio and will give good results in egg production. In figuring the ration, the fat is multiplied by two and one-fourth, as it is estimated that one pound of fat is equal to two and one-fourth pounds of carbohydrates and fat.

At the West Virginia Experiment station laying hens fed a narrow ratio, or nitrogenous ration, produced 17,459 eggs, while the pens with a wide, or carbonaceous ration, laid 9,709 eggs. During the experiment the former fowls gained in live weight one pound four ounces each, while the latter gained only about one-tenth of a pound each. Other experimetns have shown the superiority of the narrow ration, or the ration rich in protein and nitrogen.

It should be understood, however, that the nutritive ratio in itself does not necessarily indicate the true value of the ration. Palatability and other factors have to be considered. Two rations having the same nutritive ratio were fed to two different pens of fowls for a year. One of them gave a yield of 201 eggs per fowl; the other 133 eggs. There was a difference in the kind of food, but not in the nutritive ratio. The other pens having rations of a similar nutritive ratio gave yields of 101 and 143 eggs respectively. The proper nutritive ratio does not guarantee a good egg yield. Regard must be had to the kind of foods fed, and the feeder must be guided by the results of feeding tests that indicate the feeding value of different foods.

It has been shown, for example, that there is a difference in the protein. Fowls require a certain amount of protein in the ration, but to be effective in egg yield part of that protein must come from animal food. It is protein just the same, but why there should be this difference in feeding value has not yet been determined.

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Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—"Your money back if YOU are not satisfied"—the guarantee that has stood for nearly 50 years.

Write for new Poultry Book—FREE

PRATT FOOD COMPANY
Philadelphia Chicago Toronto

Pratts

373

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

WANT TO HEAR FROM OWNER OF FARM OR fruit ranch for sale. O. O. Mattson, St. Paul, Minn.

I HAVE CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give description, location and cash price. James P. White. New Franklin, Mo.

WANTED TO HEAR FROM OWNER OF GOOD farm for sale. State cash price; full description. D. F. Bush, Minneapalos, Minn.

LIVE STOCK

REAL ESTATE WANTED—Sell your property quickly for cash, no matter where located, particulars free. Real Estate Salesman Co., Dept. 11, Lincoln, Nebr.

ATTENTION, LAND SEEKERS—THE FINEST grazing and farming land in the state of Colo., from 20 to 50 miles from Denver. Can be bought at $15 to $25 per acre; good terms. Write us for particulars. The Parker Land & Cattle Co., Parker, Colo.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

PURE BRED, YOUNG BARRED PLYMOUTH Rock Cockerels, $2.50 each. Mrs. John Shearer, Frankfort, Kansas.

SHANK'S ORPINGTONS—S. C. BUFF—GREAT layers—great winners. Utility and exhibition stock for sale. Get my prices and state your requirements fully. A pleased customer or no sale. F. M. Shank, Route 2-A, La Junta, Colo., State Vice-President National S. C. Buff Orpington Club.

BUFF LEGHORNS, BEST LAYERS ON EARTH. Hatching eggs, baby chicks and stock in season. Champney, 25 So. Logan, Denver.

URE BRED BOURBON RED TURKEYS; HENS, $3; toms, $6 each. Large Muscovy (dry land) ducks, $1.25 each. H. Glitzke, Tonganoxie, Kans.

WHITE PLYMOUTH ROCKS—ONE HUNDRED cockerels from prize-winning stock, $5 each. February and March hatch, all large, beautiful birds. F. L. Roy Toliver, Fort Collins, Colo.

FOR SALE—ONE HUNDRED BARRED ROCK cockerels Our barred rock cockerels are raised not only from prize winners but the best of layers; breeding stock at $5 each; prize winners at $10 to $15 each. Write J. R. Anderson & Son, Fort Morgan, Colo.

COLUMBIA HATCHERY—WE CAN SUPPLY you with all leading varieties of cockerels for next spring's breeders, also ducks, drakes, turkeys and geese. Prices certain to advance in the fall, as there is no doubt of a shortage of breeding stock. Write for prices and kind wanted. P. O. Box 1102, Denver, Colo.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—REGISTERED HEREFORD BULLS and bred cows. Mrs. Alice Wolfe, Flagler, Colo.

FOR SALE—OUR REGISTERED HERD OF 65 large type Anxiety breeding Hereford cows with calves at foot at $350 per head with calf, together with two very high-class herd bulls. Will sell early bull calves now at from $100 to $150; this is a bargain. J. O. D. Ranch, Aroya, Colo. On U. P. R. R.

HOGS

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin. Owner.

BIG TYPE MULEFOOT SPRING BOARS, BRED sows and pigs at weaning time, priced to sell. Sinn's Mulefoot Ranch, Alexandria, Neb.

FOR SALE—20 EARLY SPRING BOARS, sired by Uneeda A. Pathfinder; also a few gilts (of 242815) quality. They will please you. Write for prices. F. W. Lyden, Hildreth, Neb.

SPRING BOARS ALL SOLD, WATCH FOR our bred gilt ad January 15th. September pigs at weaning time. Orange's Panorama, a real herd boar $100 after November 15th. Barney Bros., Big Type Poland Chinas, Haswell, Colo.

DUROC JERSEY HOGS, YOUNG STOCK OF both sexes, as well as a few bred gilts in farrow to Orien Cherry King the 15th, out of Defender and Colonel sows. Your money back if not satisfied. J. O. D. Ranch, Aroya, Colo., On U. P. R. R.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association Denver

MEN, WOMEN, 18 OR OVER. WANTED IMmediately for U. S. Government War positions. Thousands clerical positions open, $100 month. Easy work. Write immediately for list positions. Franklin Institute, Dept. W-172, Rochester, N. Y.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

GILMORE'S DISPERSION SALE OF BIG TYPE POLAND CHINAS

EVERYTHING GOES — NOTHING RESERVED

Mouws Best Gerstdale, the greatest yearling son of the $6,600 Gerstdale Jones, a real 1,200-lb. prospect. Mellow Big Bob, a great son of the noted Big Bob, who was the Sire or Grand Sire of 75 per cent of the prize winners at Omaha in 1917. Fifteen spring boars by Mouws Best Gerstdale, a Big Joe and Orphan Timm. Two 3-year-old sows Sired by Giant Wonder, a 1,200-lb. son of old A Wonder. Two 4-year-old sows Sired by A Big Joe, the largest framed boar of his age that ever came west.

Four fall yearlings by A Big Joe.

Two yearlings by Gilmore's Timm.

One yearling sow by Smooth Big Bone, grand champion of Iowa State Fair, 1915.

One gilt by Big Bob, premier Sire of the breed.

Eighteen spring gilts by A Big Joe, Mouws Best Gerstdale, A Big Joe and Orphan Timm.

Twelve fall pigs by Mouws Best Gerstdale.

A great chance for someone to start a herd of the best Big Types, as this is without a doubt the greatest herd of Big Type Poland Chinas in the west, as I have selected my herd from the best herds in Iowa and Nebraska for size, quality, bone and prolificy. Can furnish pairs and twos not related. Come or write.

GEO. R. GILMORE Fort Morgan, Colo.

AUCTION SALE
High Grade Guernsey Cattle

Entire Herd of Grade Cows. Forty Head of Heifers.
A Few Other Milch Cows Besides Guernseys

All to be sold at Public Auction

Monday, November 11

Sale to be held at my ranch, 3 miles east of Evans, 7 miles southeast of Greeley, Colo. Sale starts at 10 o'clock.

This herd of Guernseys is the result of purchasing the best grade cows possible throughout the east during the past few years and culling the herd, keeping only such cows as have proven or in my judgment will prove to be excellent producers. These cows are all bred to pure bred Guernsey bulls. All heifers offered for sale are from pure bred sires and range in age from calves to 2-year-olds. Full farm equipment including horses and implements will be offered for sale.

H. D. PARKER
Greeley, Colorado

HIGH CLASS JERSEYS AND DUROCS

The Western Home of the Majesty's

Do you notice the Majesty's are "going over the top" in all departments? I have recently added "Majesty's Feather Lad" to my herd. He is out of a daughter of old Royal Majesty, with a test of 712 lbs. butter, and a show cow, and sired by a grandson of Royal Majesty. He is fine individually, too. Where can you beat this breeding ? I have one or two splendid bull calves of Majesty breeding, and can spare a few heifers.

In Durocs, I have a couple of fine fall boars, sired by a son of Grand Model, at low prices.

Can spare a bred yearling sow and a few spring boars and gilts.

A. M. McCLENAHAN, Greeley, Colorado

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively
Anxiety Bred

We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Several cars extra good yearling bulls for sale. Write us for prices and detailed information.

OFFICES
First National Bank Building, Cheyenne, Wyoming
406 New Live Stock Exchange Building,
Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager
WM. J. ROSSMAN, Ranch Superintendent JAMES C. ADAMS, Salesman

BLUE RIBBON HERD

Registered Duroc Hogs and Holstein Cattle

Durocs won 26 firsts and champions in the shows this fall. The Grand Champion, Burke's Good E. Nuff, again heads our herd, assisted by Big Cherry King, first at Pueblo and sire of all first prize futurity pigs and litters at Pueblo, 1918. Get the winning blood.

The Blue Ribbon Live Stock Co.
C. F. Burke, Manager,
Pueblo, Colo.

DRAFT HORSES AND BEEF CATTLE

I can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2850 pounds Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

Trapped

(Continued from Page 21)

Eben Scour, laughed unpleasantly. "I'm sorry you said that, Lieutenant Morse," she said. "If the—secret got out—we might any of us be suspected. Good morning!"

She and Anne were gone. Lieutenant Morse was flushed and uncomfortable. "I say," he appealed to Eben, "They ought not to act like that. Wasn't it all right for me to tell?"

"Perfectly," said Eben Scour; and Hobart saw that the lame man's eyes were shining.

(To be continued.)

At a service held in Bridgeport, Conn., a number of years ago, the minister gave out the old hymn beginning, "I love to steal awhile away."

The chorister, whose duty it was to set the tune for the congregation, began singing, "I love to steal—" but did not get the right tune; so he began again, "I love to steal—". Still the wrong tune. "I love to steal—" he repeated in desperation; but here the minister interfered.

"It is to be regretted, brother," he remarked, dryly. "Let us pray!"—Methodist Centenary Bulletin.

MONTAIR DUROCS

Our March and July boars are by a son of Orion Cherry King, by a son of Orion Cherry King, Jr., and by two sons of Orion Cherry King Again. We have built our herd on this type and blood, which has taken highest honors at all three National Swine Shows. We can sell you a boar that will produce good barrows or a boar to head a show herd. GEO. E. MORTON & SON, Rt. 5, Box 84, Ft. Collins, Colo.

$25 HOLSTEINS $25

Five weeks old 15-16 pure, mostly white, $25 crated.
Two months old, $40.
Registered Bulls, two months old, best quality, $70.
Two-year-old springers, $125.
Cows crated, $150. Car lots write us.
Buy the best, it pays in the end.

Dr. J. A. Roberts Stock Farms
Oconomowoc, Wis.

DUROC-JERSEYS

We have the finest crop of Duroc-Jersey pigs that we have had in a number of years. They are sired by a son of Orion Cherry King, a grandson of Orion Cherry King, who is by a Grand Champion boar at National Swine Show two years ago, and by a boar of Golden Model breeding. We can give you as good a selection as can be gotten in the West. Write us your wants.

COLORADO AGRICULTURAL COLLEGE
Animal Husbandry Department Fort Collins, Colorado

HOLSTEIN CALVES

Choice, high-grade, beautifully marked heifers or bulls, 5 weeks old, $20.00 crated f. o. b. cars Write
W. C. KENYON & SONS, Box 39, Elgin, Ill.

Raise Hares for Us

IMMENSE PROFITS easily and quickly made. We furnish stock and pay you $2.00 each and expressage when three months old. Contracts, booklet and full information 10c. Nothing free. Address
Dept. 24, THORSON RABBIT CO. Aurora, Colo.

Shorthorn and Polled Durham Cattle

Valentine's Last, X12316, 452008 at head of beef herd. Claywood White, 427350 at head of milk type.

STATE INDUSTRIAL SCHOOL
Golden, Colorado

Self-Feeder for Hogs

With farm help scarce, the efficient farmer will endeavor to remove "hog feeding" from his list of chores. The hog can feed himself as well as, if not hetter than, the most expert feeder can do it if given the chance. The chance is offered by the self-feeder—a device by which the hog can choose from a variety the feeds hest suited to his needs. Hogs, like persons, require a variety of feeds to take care of their hodily wants. Also, one hog requires more of a certain feed than does another.

It is certain that the self-feeder method of feeding is more efficient than the hand method and that it will save a great deal of time and lahor. Instead of feeding two or three times a day, all that is needed is to see that the feeders are not empty and that the hogs have plenty of water.

There are several types of self-feeders for hogs, hut they all employ the same principle of letting the hog do the work. Some of them consist of just one compartment and are nothing more than a hox with one side slightly altered. Others have several compartments with means of adjusting and regulating the opening to accommodate different kinds of feed and regulate the flow. They vary in size from a small hox to whole corn crihs turned into self-feeders. The kind and size that a farmer will want depends on the size of his herd and his inclination in the matter. The United States Department of Agriculture Farmer's Bulletin 906, "The Self-Feeder for Hogs" can he ohtained free by writing the Division of Puhlications, U. S. D. A., Washington, D. C.

What the Sun Does

By letting the sun shine for a given time upon the hlackened cover of a hox filled with water or some other liquid and noting the rise in temperature, affords us a method of apprximating the amount of heat given up hy the sun. By such a method it is estimated that the earth receives every second from the sun enough heat to raise 600,000,000 tons of ice water to the boiling point, or to melt 480,000,000 tons of ice without change in temperature. If this is the amount that the earth receives think of the amount that must be passing off into space and other planets. This amount has heen computed to be 2,200,000,000 times as great as that which the earth receives. Scientists have shown that the amount of heat received hy us from the sun may vary as much as 5 per cent in less than a week.—Frank P. Goeder, Colorado Agricultural College, Fort Collins, Colorado.

More Livestock Needed

There is something just a little wrong with our agriculture here in the valley, it seems to me; too many of the farmers depend merely on cropping their land for their returns. They say they will plant peas to maintain the fertility of their land, which is good as far as it goes; but it can never replace stahle manure. They also say they have no place for a few good cows as they expect to put in an extra 40 acres or so of potatoes; and it is just this extra acreage which his caused so much grief this fall. I am not knocking the spud business; we should raise just what we can take care of without waste each year, and not risk so heavily along any one line. Start a pasture of yellow sweet clover, brome grass and meadow fescus, or some other such comhination; then turn in on this a few registered cows and a span of good draft brood mares. For your land's sake and for your own satisfaction let good hreeding replace a part of the cropping in your farm operations.—County Agent C. D. Hyatt in Monte Vista Trihune.

Inspection of Farm Products

Shippers and handlers of fruits and vegetables: Do you know that the Bureau of Markets, among its other activities, maintains an Inspection Service for your benefit in forty of the larger cities thruout the country?

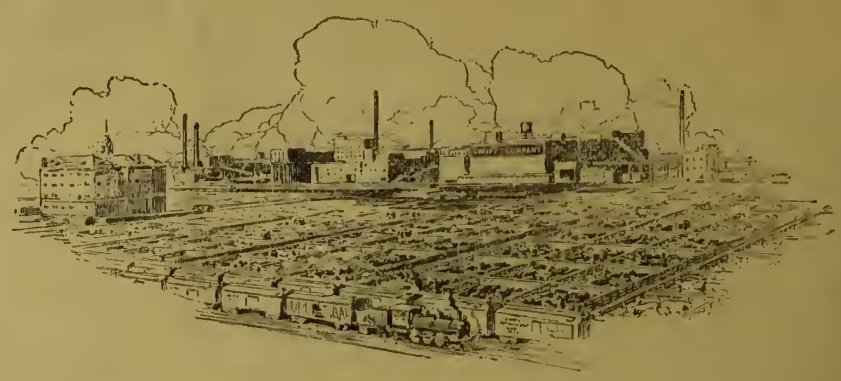
This service is now open to shippers, receivers, railroads, or any other interested parties. In case of dispute as to the quality or condition of a shipment, you can call on the inspector at that point, and he will make a thoro examination and issue you a certificate setting forth his findings. It is provided in the law that this certificate shall be received as prima facie evidence in any court.

If you have shipped goods and the consignee rejects without good cause, or if you have purchased goods and the shipper does not send you the grade of stuff you bought, the government, thru this service and the Food Administration, provides you with the machinery for securing a prompt and equitable adjustment, and at very slight cost. By wire or letter ask the inspector in the city where the shipment is located to make an inspection, and then take the matter up with the Food Administration, either in that city or in Washington.

You can secure a list of the inspectors in the different cities by writing to the Bureau of Markets, Washington, D. C. If in haste, simply wire the "Food Products Inspector, Department of Agriculture."

The fee for a carlot inspection is $2.50.

Address all communications relating to inspections on the Denver market to H. E. Kramer, 12 Custom House, Denver, Colo.



How the packers have helped to develop good stockyards

—and how this has benefited you as a producer

WHOSE job is it to provide and maintain stockyards, or markets, for the open buying and selling of cattle?

Who shall see that these markets have good pens where your stock can be properly watered, fed and taken care of until sold?

Stockyards, in early days, were not efficiently managed, and were not financially attractive to investors, except in the largest markets.

As the packers built their big-capacity plants at the various live-stock centers, they naturally became interested in helping to develop adequate stockyards facilities, where stock raisers could ship their animals.

The present high efficiency of most of the principal stockyards is due largely to the time, the effort, and the money the packers have put into them.

All stockyards, including those in which packers are interested, are conducted as *public* market places for the benefit of all.

They are open to all—to producer, commission man, dealer, speculator, the packer's buyer—and with exactly the same rights to each.

Packer-ownership gives no special advantages to the packer and no control over live-stock prices.

These spot-cash markets have been a factor of very great importance in promoting the growth of the live-stock industry.

If stockyards efficiency can be increased by Government ownership and operation, all well and good. Swift & Company is content to stand on its record of having helped the live-stock industry by the part it has played in developing these market places.

Swift & Company, U. S. A.

A nation-wide organization owned by more than 22,000 stockholders

Danish Dairy Figures

Due chiefly to shortage of feed, the numher of cows in Denmark is expected to decrease hy about 100,000 within the next six months. The present estimated numher of cows in that country is 950,000, which is ahout 200,000 less than in the summer of 1917. According to reliable reports received by the U. S. Food Administration the reduction in Denmark's hutter supply will exceed 2,000,000 pounds during the coming year. Facts like these should remind United States dairymen of the growing dependence of foreign populations on American dairy products. In pre-war years Denmark exported butter to the British Isles which now must look to other sources of supply.

Bulletin on Sub-Irrigation

"Irrigation hy Means of Underground Porous Pipe" is the title of a hulletin just issued by the Colorado State Experiment Station. The author is Prof. E. B. House, head of the Department of Civil and Irrigation Engineering. The hulletin gives a resume of an experiment conducted at Fort Collins with sub-irrigation, the authors' conclusion heing that the practice is not to he recommended for ordinary farm crops, on account of the excessive cost of installation. The practice, hy the method outlined in the bulletin, is recommended "only for the most intensive farming, where water is very scarce and valuahle, and only a small stream is available."

Copies of the hulletin, which is number 240, may he had free on application to the State Experiment Station at Fort Collins.

Under the agreement of the U. S. Food Administration with the food controllers of the allied nations, our hreadstuffs export program for the coming year will aggregate 409,320,000 hushels, which is equivalent to more than 60 bushels for every farm in the United States.

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DEC 2 1918

WESTERN Farm Life

Vol. XX Denver, Colorado, November 15, 1918 Semi-Monthly

Woman Farmer Putting Up Hay in the Gunnison Valley, Colorado. (See Article on Page 18)

Warranted to Give Satisfaction.
Gombault's
Caustic Balsam

Has Imitators But No Competitors.
A Safe, Speedy and Positive Cure for Curb, Splint, Sweeny, Capped Hock, Strained Tendons, Founder, Wind Puffs, and all lameness from Spavin, Ringbone and other bony tumors. Cures all skin diseases or Parasites, Thrush, Diphtheria. Removes all Bunches from Horses or Cattle.
As a Human Remedy for Rheumatism, Sprains, Sore Throat, etc., it is invaluable. Every bottle of Caustic Balsam sold is Warranted to give satisfaction. Price $1.75 per bottle. Sold by druggists, or sent by express, charges paid, with full directions for its use. Send for descriptive circulars, testimonials, etc. Address
The Lawrence-Williams Co., Cleveland, O.

HEALTH—FREE
Your name and address on a postcard will bring you absolutely free an interesting booklet called "Thirty Feet of Danger," presenting in plain American language the facts every human being should know and act upon in keeping his system clean and healthy. It is sound advice, and it *may be the means of avoiding illness for you and your family*. A clear statement on the best of medical authority. Write today to
Nujol Laboratories
STANDARD OIL CO. (NEW JERSEY)
50 Broadway New York

Big Money Running Water
Let us start you business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an
Improved Powers Combined Well Boring and Drilling Machine
One Man One Team
Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.
Small investment; easy terms. Make machine pay for itself in a few weeks work.
There is a big demand for wells to water stock and for irrigation.
Write for free illustrated circulars showing different styles.
Lisle Manufacturing Co.
Box 943 Clarinda, Iowa

WITTE
Kero-Oil Engines
Twice the Power at Half the Cost
Sizes 2 to 22 H-P.--Select Your Own Terms--Direct-from-Factory prices. Write your own order--Save $15 to $200. Prompt Shipment. Big new catalog, "How to Judge Engines" FREE--by return mail, Postpaid.
Save $15 to $200
Write Today
WITTE ENGINE WORKS
2640 Oakland Ave., Kansas City, Mo.
2640 Empire Bldg., Pittsburgh, Pa.

$22.00 Sweep Feed Grinder | $28.00 Galvanized Steel Wind Mill.
We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.
CURRIE WIND MILL CO.,
610 E. Seventh Street, Topeka, Kansas.

FREE TRIAL
Cut out this ad and mail it to us, with your name and address (no money); and we will send you our FAMOUS KARNAK RAZOR by return mail, postpaid. You may use the razor for 30 days FREE; then, if you like it, pay us $1.85. If you don't like it return it. SEND NO MONEY.
MORE COMPANY. 442 More Building, St. Louis, Mo.

BEES PAY BIG PROFITS
Raise your own honey. We start you right. Send today for 6 months' trial subscription to American Bee Journal (Oldest Bee Paper in America) and get 24 page bee primer with catalogs of supplies free. 50c
AMERICAN BEE JOURNAL, Box G, Hamilton, Ill.

The Bowan Community

If you want to see genuine community spirit, where, apparently, everybody is pulling in the same direction for the same common good, then plan to put in a day or so around Bowan, twelve miles southeast of Monte Vista. This is not a town, just a community, with a church, a parish house and a parsonage located at a crossroad near the center of the neighborhood.

The writer was fortunate enough to attend the Bowan Harvest Home Festival, which is an annual event, taking place usually on the Sunday nearest the middle of September. The church is decked out with displays of grains, vegetables, fruits, honey, etc., and very much resembles a community fair which, in a sense, it is, only there is no judging and no awarding of prizes; yet it is educational. In another sense it is a thanksgiving with speaking and music by both young and old, lasting the entire day with the exception of the noon hour when, in the parish house, long tables are filled with wonderful "eats" hand-selected for the occasion. The whole day is mighty good and I know there is not a person who, as he goes away, does not say to himself it was good to have been there. We need more of these community get-together occasions, and we need more communities like Bowan.

Following is a brief statement of the organization and activities of the church: This Bowan church was organized nine years ago as an appointment of the La Jara M. E. Church One year ago it was reorganized as a regular station paying a salary of $700. outside of a missionary appropriation. A parsonage costing $2,500 was built in December, 1917; a parish house valued at $1,500 the year before, and the church, $2,500, several years ago. And the fine thing about it is that every penny has been paid on this property. During the year, September, 1917-'18, the 100 members, representing 46 families, raised in all for church and war relief work, $5,000. The present minister, Rev. Mr. Webster, is paid for the year September, 1918-19, $1,200, which is entirely independent of the missionary society.—C. D. Hyatt, County Agriculturist.

Colorado Exhibit a Winner

Tho less than one-fourth of the Colorado agricultural exhibit was displayed at the International Soil Products exposition at Kansas City this year the state took thirteen first prizes and one second. The prize-winning exhibits were all from Montrose county and were shown by John Howell of Montrose.

Most of the Colorado exhibit was shipped back home from Wichita, Kan., when the International Wheat Show there was closed down on account of Spanish influenza. A few boxes of exhibits had been sent on to Kansas City and these were shown, tho the prevalence of the epidemic there prevented the formal opening of the Soil Products exposition. The products that were in place were judged and awards made. Colorado took first in threshed durum and soft winter wheat, first in three varieties of wheat in sheaf, first in sweet clover, Sudan grass and timothy in sheaf and first in rural, white pearl russet Burbank and peachblow potatoes. It was also credited with the best general display of apples and took second place on brome grass in sheaf.

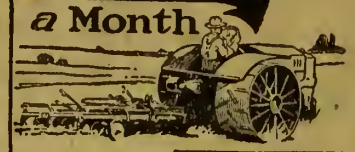
Who's Got Sorghum for Sale?

Who has some good old fashioned, pure, farm made sorghum for sale? George W. Elldery, assistant postmaster at Gardner, Colo., has a longing for a gallon or so of this sweetness, and if any farmer can supply him he wants to know about it. Here is his letter:

"Can you send me the names of any of your subscribers who are making and selling pure sorghum, especially in Colorado and near to this territory. Forward this letter to someone known to you who will advise me as to the price and the cost of shipping from their section via parcel post or express."—Geo. W. Elldery.

Gardner is located up in the mountains in Huerfano county where sorghum cane doesn't grow. Write to Mr. Elldery if you can furnish the sorghum.

The wheat harvest is encouraging but the demands are many and wheat conservation must be maintained.

Pick Your Own Job
$125 to $200 a Month

Tractor Operator
Help on farms is very scarce and thousands of chances for the man who can operate any make of tractor. We teach you to operate any tractor made.
$150 to $250 a Month

Garage Manager
Every town has one or more garages, many of them in the more important places are large businesses. They need well trained men as managers. We teach you to properly manage a garage.
$100 to $175 a Month

Expert Welder
This is a new and important trade. Very little competition and plenty of opportunities. We teach you to hold a good job.
$55 to $145 a Month

Army Mechanic
If you go into the army, our course fits you to take a responsible mechanical position, paying up to $145 a month.
Which One?
You may take your choice. In these days, mechanically trained men are in such demand that any man—young or old—who prepares himself to hold down a mechanical job, may take his choice of hundreds of positions paying big salaries.
Thousands of American mechanics have gone to war, thousands of others have gone East to work in the munition factories, and their places must be filled by new men. Trained Auto, Tractor and Truck men are very scarce. Jobs everywhere are awaiting them at splendid salaries.
Lincoln Auto and Tractor School
Teaches you in eight weeks to operate and repair any make of Automobile, Tractor, Truck or Gas Engine, or to be an Expert Welder. Enormous numbers of Tractors and Trucks are being sold to people who do not know how to operate and care for them, and they cost too much money to trust to inexperienced men.
Get Into Business For Yourself
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Driveway on Schaefer Farm, Jefferson County, Colorado, Lined With Lombard Poplars

Hardwood Trees for Colorado Planting

VARIETIES THAT RESIST DROUTH AND FREEZING

W. J. MORRILL, State Forester

THE portions of Colorado naturally wooded offer but very little difficulty in the matter of choosing suitable tree species to plant. The trees native to the region are always the best species. To add variety, trees native to regions of similar conditions even in other continents may be selected with considerable assurance of success, provided both soil and climate do not materially differ.

The greatest interest in tree planting in Colorado, however, is found not in the naturally wooded regions, but in the naturally treeless part of the state, as may be expected. In getting to the bottom of the matter of suitable trees for treeless areas it may be well to consider the reasons why the plains are naturally treeless. Some have contended that the prairie fires which, before the settling of the plains, annually swept the prairies were the prime cause for their treeless condition. There is an element of truth in this theory, since any area subjected to frequent fires could not possibly grow a forest. Others have maintained that the prairie sod once formed would not permit of the establishment of a stand of trees. This, too, is almost reason enough for a treeless region.

But there are other factors, probably of greater weight, which would cause a treeless condition. These are, the greater wind velocity, lower humidity, greater radiant energy and high summer temperatures, all tending toward increased evaporation of soil moisture, and, of course, light precipitation. Of these adverse factors light precipitation and increased wind velocity have the most influence in causing relative aridity. In short, deficiency in available soil moisture on the plains is the chief cause of their treeless condition.

The period after germination of tree seed and until the roots have penetrated some distance is the critical period which has proved disastrous in most cases when growing trees from seed sown on the prairie. That trees grown in a nursery in prepared soil and with irrigation, or even less successfully wild trees, can be transplanted to the prairie and grown to good size even to form groves and shelterbelts has been demonstrated time and time again. An established grove may even react on the locality and change the surrounding environment in the soil to the extent that the area sheltered from the winds and shaded, thus reducing excessive radiation and evaporation, may take on characteristics rendering natural regeneration of the trees possible. At least, the altered soil conditions under the grove rendered the environment most suitable for the thrift of the trees. As a rule, however, groves planted on the prairie do not naturally extend themselves.

When the high plains of eastern Colorado were still a range country, little effort was made to establish trees. It was only with the advent of the farmer that trees were planted, and many failures, together with some successes, marked the beginning of tree planting.

From the discussion as to the cause of the treeless condition of the plains it is evident that the species of trees which can best endure drouth conditions are the species to grow in eastern Colorado. But matters are complicated further from the fact that many drought-enduring species cannot withstand winter killing. We have a climate here in winter which may be very mild for many days, stimulating cell activity in the growth tissue of the tree only to be followed by excessively cold weather. The trees successful in eastern Colorado, then, must be drouth resisting and not subject to winter killing.

Catalpa trees are drouth resisting, but are subject to winter killing. This species has made good growth in the Arkansas Valley after once getting past the critical period of winter killing during the first three or four years after planting. Elsewhere, according to the writer's observation, it has not succeeded, except near the foothill cities like Colorado Springs, Denver, Boulder, Longmont and Fort Collins.

The Osage orange, or hedge tree, is no more hardy than catalpa in Colorado. The black walnut suffers from winter killing except in sheltered places and near the foothills. The Russian mulberry succeeds in certain localities, while generally it kills back badly in the winter.

In the search for trees suited to the region in question it may be well to consider the species found growing naturally fartherest west in Nebraska in places closely similar in climate to eastern Colorado. Here we find the hackberry, American elm, cork elm, balm of Gilead, aspen, narrowleaf cottonwood, lanceleaf cottonwood, broadleaf cottonwood, boxelder and bur oak, together with the western yellow pine and Rocky Mountain red cedar on the drier ridges sheltered from the wind. The broadleaf species mentioned above are found in the creek valleys. The cottonwoods of the species mentioned as growing in western Nebraska, and the balm of Gilead, a species of cottonwood, as is the aspen; these together with the hackberry and boxelder are all found native to valleys in the foothills in Colorado, or in the valleys extending far eastward into the plains.

We reason from this that these species are more nearly adapted to planting on eastern Colorado farms than many others of the tree species common to a more humid region. Experience has also confirmed this reasoning.

Next let us consider what regions in other parts of the world have a climate similar to ours in eastern Colorado. Portions of northern China, Siberia and the Russian steppes possess similarity. Accordingly, the Russian wild olive has been introduced and promises to enrich our native selections. A certain elm from northern China is being tried out in our experimental tree plot in Fort Collins. It is too soon to make predictions as to the adaptability of this elm, but after a few years' trial it can be said to look promising. Other exotics are being tried. An ornamental shrub from southeastern Europe and adjacent countries, various species of tamerisk, has demonstrated its adaptability to eastern Colorado conditions and is becoming popular for low windbreaks, hedges and ornamental clumps.

As time goes on more tree species and ornamental shrubs and vines will be found possessing characteristics rendering the species hardy and desirable under the trying climatic conditions of the plains. The following broadleaf trees may be more safely recommended than many others:

The Cottonwoods

The so-called Carolina poplar is a cottonwood characterized by very rapid growth and short life. About ten or twelve years is its span of useful life. It may be used for quick results, but longer-lived trees should be planted to take the place of this species, which may be used as a temporary tree. As the Carolina poplar is always grown from cuttings of the staminate (male) tree it never bears cotton. This species is not so hardy as the native species of cottonwood.

The common native cottonwood is long-lived and hardy; and the lanceleaf cottonwood is common in natural groves at points as far as fifty miles out from the eastern foothills.

The cottonwoods, as any resident of eastern Colorado knows, are found naturally only in the draws or valleys on the bottomlands, where more moisture is available than is found on the uplands. It appears that there are other genera of trees to be mentioned later that are more drought-resisting and hence better adapted to the uplands. However, up to the present time the cottonwood has been used in eastern Colorado for upland planting far more than all other trees together. This has probably been due to the fact that young cottonwoods could be had in the river bottoms for the mere labor of digging them up.

The aspen is short-lived but lasts longer than the Carolina poplar. It has not been planted much on the plains and is probably not as good as the other cottonwoods. The balm of Gilead prefers the higher elevations and is found to be a favorite on the ranches in North Park. It can be recommended for the Arkansas Divide and regions where the elevation is between 6,500 and 8,000 feet. The writer has never observed it on the plains.

The Ashes

The mountain ash (not a true ash) is another favorite in the higher farming regions. One species is a rare native in our mountains at elevations exceeding 9,000 feet. It undoubtedly requires considerable water.

The green ash makes a highly desirable lawn and street tree in the towns and cities near the mountains, but many groves in eastern Colorado have failed after some years, chiefly because of insect borers.

The Elms

The American elm has done very well in most places on the plains. It resists insects reasonably well and has tough wood, therefore suffering less than other trees from wind and hail.

The cork elm has not been given a trial, but merits it. Its wood is denser, tougher, more durable and harder than the wood of American elm and the tree has less insect enemies than its relative. The cork elm does not have the vase-like shape of the American elm, but resembles in shape all the trees which produce a long central shaft. Cork elm is somewhat slower in growth.

The Hackberry

The hackberry is equal to the elm in every particular, so far as the writer's observation goes, and it has a more symmetrical form. The fact that the hackberry is native to our lower foothill canyons, while the elm is not, leads one to the conclusion that it is at least as well adapted to our plains as the elm. The results in our experimental plantations at Akron, Colorado, confirm this. The hackberry belongs to the same family as the elm and looks considerably like it excepting the bark and seed. The hackberry is slightly slower in growth than the American elm.

The Locusts

The honey locust bids fair to become one of the favorites, except to the barefoot boy. Its long thorns, however, have been wholly or mostly eliminated in a thornless variety introduced. This species, while doing best on medium loose, sandy loam soil, will do better on hard soils than most species and it can withstand considerable alkali. Adobe soil is not well suited to trees, but honey locust will put up with it to a marked degree. This species is somewhat less subject to winter killing than is black locust. Altofether honey locust is one of the best trees to recommend for general conditions in eastern Colorado. Its wood in use as fence posts will last an average of 11 or 12 years.

Black locust has more to its credit than most trees suited to the plains region, especially to the southern half of it. It grows rapidly, its wood is very hard and durable and it is a favorite fence-post wood, lasting 25 or 30 years. But wherever the locust borer has entered a region it will inevitably kill the trees. This insect pest has made its appearance near Sterling, Burlington, Denver and Boulder; probably elsewhere in the state. However, one may plant black locust in the majority of localities in eastern Colorado, especially in the southeastern part, with the reasonable assurance that the borer will not reach that locality in many years or until after the trees have produced a crop or two of posts. Were it not for the borer the black locust would be the prime favorite as a farm grove or shelterbelt tree thruout the most of the United States.

The Russian olive is attracting much interest. It grows rapidly; a tree nine years old cut recently in the grove on the State Agricultural College farm measured six inches in diameter. The foliage is a beautiful grayish green.

(Turn to Page 21)

Western Lands for Our Returned Soldiers

SECRETARY LANE'S PLAN NEEDS CO-OPERATION OF MOUNTAIN STATES

ALVIN T. STEINEL

DOES the West realize its responsibility and its opportunity in reference to the problem of providing employment and homes for the returned soldiers at the end of the war?

Colorado, Wyoming, New Mexico, Utah and Idaho, the five states to the upbuilding of which this magazine is dedicated, must act quickly if they wish to take advantage of a plan proposed by Secretary of the Interior Franklin K. Lane for farm settlement of returned soldiers under the joint supervision of federal and state governments. Late in October the writer attended a conference in Cheyenne at which Secretary Lane's plan was submitted to Governor Houx of Wyoming, in order to pave the way for necessary state legislation. Officials in other Western states are being informed in a similar way of the gigantic project. Legislatures will be in session next January in nearly all these states. Congress has before it a tentative program. As yet nothing has taken definite shape, but public sentiment is being aroused to the necessity for concerted action by all states in which public or privately owned lands are available for reclamation and settlement on terms attractive to the returned soldiers.

The first step has been taken at Washington by the Secretary of the Interior, who has men in the field locating available areas that may be reclaimed by drainage or irrigation. States that show the proper interest in the subject by taking organized action thru responsible bodies are the ones that will benefit.

The matter is not one to be considered solely from the selfish view of state development, but principally from the standpoint of providing employment and permanent farm homes for hundreds of thousands of men who will be released from the nation's service when peace is won. We cannot wait till that moment comes. England and Canada are busy now. They have been occupied many months laying plans for carefully supervised settlement of the Canadian west after the war. These plans will not exclude American returned soldiers, if this country fails to provide for her own men.

At the International Farm Congress, held in Kansas City last month, approval of Secretary Lane's plan, as he had outlined it in a letter to President Wilson, was given in the following declaration:

Kansas City, Mo., Oct. 17, 1918.

Honorable Franklin K. Lane,
Secretary of the Interior,
Washington, D. C.

Dear Sir:

The undersigned, acting under the authority and direction of the International Farm Congress assembled at Kansas City, Missouri, this, the 17th day of October, A. D. 1918, representing the following states, desire to express to you our hearty approval of the policy outlined in your letter of May 31, 1918, to the President, to provide useful employment and homes for returning soldiers, and our desire to co-operate in every way in bringing that policy into effect.

We believe that the legislation that is to be enacted in regard to this matter should embrace the following features:

The proposed legislation should provide for the co-operation of the federal and state governments under laws to be enacted by the Congress and legislatures of the several states.

A state board should be created in each state to act in co-operation with the federal authorities.

The federal government to provide the money for reclamation works, and to be expended in the preparation of farms for cultivation, and the reclamation work to be carried out by the federal government.

If privately owned or state owned land is used, the state should provide it.

The land submitted by the state should be subject to the approval of the federal government, both as to quality and cost.

The states to provide facilities for the agricultural training of soldiers lacking experience or knowledge of local conditions.

Wherever such agricultural training is provided, the state and the federal government shall share the cost equally.

Money provided for the acquirement and reclamation of lands, and the preparation of farms, shall be repaid in small payments, extending over long terms, at low rates of interest.

This problem concerns the farmers as much as anyone. Farm organizations which will be in session in Colorado and other western states this winter, should consider it. The Colorado Farmers' Congress meets early in December at Fort Collins and the question undoubtedly will be brot to the attention of that body, and subsequently, also, to the attention of the Grange and the Farmers' Union, at their sessions in January. The farmers are producing food for the armies; their sons are fighting the battles of democracy in France today. The western boys are even now unconsciously doing missionary work among their fellow fighting men recruited from the eastern states. Many returned soldiers will seek new homes, some because their places in stores or factories have been filled by women; others, because of the broadened horizon that the war has opened to them, will wish to go to a newer country, to help make idle lands productive. There is no need for extended argument along this line. We are certain of only one thing after the war—that is, there will come a period of readjustment in which the demand for farm homes will be far in excess of private resources to supply. This demand must not be left to private enterprise if we wish to see the soldiers justly dealt with.

Colorado still has idle lands that can be irrigated. Wyoming, Utah and New Mexico have tremendous areas upon which it is feasible to put water. Our non-irrigable lands capable of development under dry farming methods are not included in the project of Secretary Lane, but they may be included in plans adopted by the individual states. As the project now stands the states are to supply land areas and the federal government the construction and development work. Dr. Elwood Mead, a noted authority on irrigation, who was at one time connected with the Colorado Agricultural College, and later was called to Australia, where he served the colonial government in the development of great irrigation and settlement works, is one of Secretary Lane's advisers in this matter. California, now Dr. Mead's home, is awake to the opportunity for land settlement after the war. The intermountain states, where development opportunities are much greater than in the coast states, must get busy if they wish to share in the movement.

At the Cheyenne conference there were present Governor Houx of Wyoming, A. P. Davis, Director of the United States Reclamation Service and the Chief of Construction; F. E. Weymouth, Engineer of Construction for the Western States of the Reclamation Service, State Engineer True of Wyoming, J. B. Lamson and O. H. Liebers, agriculturists for the Burlington railway; R. A. Smith, representing the colonization department of the Union Pacific system and several other railroad representatives, as well as a number of Wyoming men interested in the development of the idle irrigable lands of that state. Mr. Davis outlined the plans of Secretary Lane, and suggested ways in which the states could co-operate. There was an informal discussion of the matter and a promise was given by the Wyoming officials that the question of necessary legislation to enable the state to co-operate would be carefully considered.

No attempt need be made in this article to outline details of the plan, the object here being to call to the attention of state governments in Colorado, Wyoming, New Mexico, Utah and Idaho the necessity for prompt and practical consideration of this important duty to the West and to the soldiers who will seek new homes after the war. Below are the letters that show Canada's keen conception of this problem and the interest of the Canadians in their returned soldiers. Incidentally it may be remarked that Canada has never ceased active colonization efforts even during the war, and that the success Canadians have had in pulling immigration across the border from farms in the United States is a deserved compliment to their energy and ability as colonizers.

JUNIOR CONSTITUTIONAL CLUB,
PICADILLY, W. I.,

August 31, 1918.

To the President,
Minneapolis, St. Paul & S. S. M. Ry.,
Minneapolis, Minn.

Dear Sir:

As I think you may be aware, I have for some time been carrying out a seif-imposed task of collecting all information possible from all states and colonies, and passing it on to ex-sailors and soldiers who may decide to settle overseas after the war, as they can now talk over these matters at their leisure with new American and Colonial chums.

At my suggestion, Lord Shaughnessy, president of the Canadian Pacific railway at Montreal, has decided to have literature descriptive of Canada and its opportunities for settlers, sent to every Red Cross and other hospital and convalescent home thruout the United Kingdom. A list of these institutions (now running into many hundreds) is kept at the Red Cross society's offices in Pall Mall, London. It seems to me it would be a good thing for your company to do the same, with the aid of your London agent. Never was the question of U. S. A. and Canadian settlement, vis-a-vis to the British people, in so favorable a position, as you have now so many waiking and talking advocates in this country, in the shape of your dear boys who have come over to help us maintain peace and justice in the world. Most of our folks have never seen Americans, and certainly not in the bulk before, and it is a very cheering and heartening revelation, I can tell you.

With compliments and best wishes,
Yours faithfully,
(Signed) J. LANDFEAR LUCAS.

MINNEAPOLIS, ST. PAUL & SAULT STE. MARIE RY. CO.

Land and Industrial Dept.,
Minneapolis, Minn., Sept. 30, 1918.

Mr. W. H. Killen,
Building.

Dear Sir:

I attended a meeting September 24 at Eau Claire, Wis., which was called for the purpose of discussing plans and methods to be followed in presenting to the Honorable Franklin K. Lane, Secretary of the Interior, for the placing of returned soldiers on the "cut-over-lands" of the Northwest after the war.

I simply desire in this communication to call your attention to some information submitted by Mr. Dan Wallace, of St. Paul, editor of the Farmer.

Mr. Wallace read extracts from a letter written to him by a man who is serving in the Canadian troops on the western front in France. This man was employed by Mr. Wallace for his agricultural ability as a writer. Since joining the Canadian army he has been used on the front to instruct the soldiers in agriculture and horticulture with reference to the opportunity in Canada, this man being a native of that country.

According to these extracts, I gathered the information that they have a well-organized school and are making every effort to inform the soldier as to the agricultural advantages in the Canadian Northwest. He spoke of the school as the "University of Vimy Ridge," and I judged from the tone of the communication that the soldiers are taking a very keen interest in getting this information.

Possibly the United States government is doing, or contemplating something along similar lines. It seems to have a good effect and will undoubtedly result in a movement toward the land when the soldier returns from the front.

Yours very truly,
(Signed) H. S. FUNSTON.

Champion Canning Team

Altho it was their first year in canning club work the young ladies comprising the Arapahoe county team won first prize at the state fair in Pueblo, in competition with a dozen other good teams. The accompanying cut shows the young ladies actively engaged in putting up corn and other garden stuff for winter use. The team is composed of Helen Coe, Harriett Kephart and Rose Lancaster, the names being given here in the order in which they stand in the picture, reading from left to right.

These girls were pupils of the Englewood school, a suburb of Denver. The garden and canning clubs of Englewood were under the leadership of Miss Lucy Merry, a Manitou teacher, who devoted herself faithfully to the task of keeping the young people interested, after they had been organized under the supervision of County Agent Walter A. Groom. About 80 finished the season's work.

The work was financially supported on a co-operative basis by the school board and town council of Englewood, the Parent Teachers' association and the government, the total amount spent being $300, and the results being worth many hundreds of dollars in food production and conservation, in addition to the valuable lessons learned by the young people in this congenial and healthful employment.

Building Dehydration Plant

The San Luis Valley Dehydration company, a new corporation with a capital stock of $100,000, broke ground this week for a warehouse and dehydration plant capable of handling twenty-two tons of raw potatoes, unpeeled, every twenty-four hours. The officers of the company are local men. President, A. E. Headlee; vice-president, John Shaff; secretary, L. B. Sylvester; treasurer, W. E. Kistler.

The company will build what is known as a double unit plant under the Edwards process. Mr. W. D. Edwards of the Edwards Engineering Corporation of Chicago is the engineer in charge. The factory is between Washington street and Broadway. The old electric light plant will be used for engine and boiler rooms, west of which will be a large storage warehouse and east of the boiler room will be the dehydrating machinery. It is expected that the plant will be ready for operation in January.—Monte Vista Tribune.

America must literally feed the world and at the same time prepare to rebuild the world's food supplies.

Colorado Farmers and Farm Women's Congress

GATHERING OF RURAL FORCES AT FORT COLLINS NEXT MONTH

RALPH L. CROSMAN

THE Colorado Farmers' and Farm Womens' Congress which meets each year at the Agricultural College at Fort Collins, will be held early in December this year, instead of January The dates are December 9 to 13. This change was made because it is believed that it will be more convenient for the farmers of the state to attend the congress at this time than in January. The National Western Stock Show, the annual meeting of the Farmers' Union and the State Grange, and other farmers' organizations, which are usually held at the same time in Denver, have prevented many farmers from attending the sessions of the congress in years past. With the change in date, farmers can go to the congress and have a month in which to catch up with their work before the stock show and other meetings, and stock growers can attend the congress without their work of preparing their stock for exhibition being interfered with. The change in date was agreed upon by President Newton C. Dougherty, Secretary H. T. French of the Congress, and President Charles A. Lory of the Agricultural College, in compliance with instructions in a resolution passed at the last session of the congress.

Every rural organization in the state is invited to send delegates to the congress, including farm bureaus, farmers' unions, granges, co-operative associations, live stock clubs, breeders' associations, horticultural clubs, and rural women's clubs. The officers this year are making a special effort to present the opportunities the congress affords to the officers of local rural organizations and to urge them to send delegations. A letter has been sent by Secretary French to the secretary of every rural organization in the state, announcing the dates of the congress, and inviting the organization to send delegates. Credential blanks were enclosed with this letter. If any organizations have been overlooked it is simply because its existence was not known to Secretary French, and he will appreciate it if the officers will communicate with him. Several state farmers' organizations will hold their annual meetings at the college during the Farmers' Congress, among them the State Dairymen's Association, the State Bee-keepers' Association and possibly the State Potato-growers' Association.

Live stock subjects will have prominent places on the program this year. John E. Painter, widely known Hereford breeder of Roggen, is assisting President Dougherty and Secretary French in arranging the details of this feature of the congress. Some strong speakers have already been secured. James G. Brennan, manager for Swift & Company in Denver, will speak upon "What the Stockyards Can Do For the Cattle Industry." Doctor T. F. Dewitt, known all over the West because of the success of his Hereford herd at Parshall, will speak upon "The Value of the Sire." Lord Ogilvy, well known agricultural writer, will discuss "Re-establishing Grasses on the Range." Other features of the livestock program are now being worked out.

For several years a rural life conference has been held at the same time as the annual sessions of the congress, this conference being participated in by rural pastors and rural educators. Last year the Colorado Rural Life Association was organized with Rev. Clark Bower as president, and H. L Seamans as secretary. Mr. Seamans has removed from the state, and Miss Maude E. Sheridan, assistant state leader of boys' and girls' clubs, has been appointed to succeed him. Rev. Mr. Bower and Miss Sheridan are now at work formulating the program for the sessions of this association, which will occupy one day and one evening. Economic, social and religious conditions in the country are virtually undergoing a reconstruction, and there is a movement which is almost sweeping the rural districts of the nation for community effort in improving these conditions, in striking contrast to the traditional tendency of rural people to let each man shift for himself and "let the devil take the hindmost." These community movements are centering around the rural school and rural church, in many places unusual success attending the consolidation and co-ordination of these two agencies. Rural pastors and rural educators generally in Colorado, are invited to attend this association meeting.

The women's section of the congress presents a rare opportunity to the rural women of Colorado to improve household conditions all over the state. The most vital problems connected with the rural household are discussed, members of the faculty of the home economics department of the college give lectures and demonstrations, opportunity for practical housekeepers to explain methods they have tried in actual practice is provided, and the women in attendance find free and generous opportunity for the exchange of ideas and the collection of much valuable information. The details of the program for this year are being worked out by Professor Inga M. K. Allison, head of the department of home economics, and Miss Miriam M. Haynes, state leader of county home demonstration agents. Every rural women's organization in the state is invited and urged to send delegations to this congress.

The same methods as used last year in conducting the congress will be followed this year. The mornings will be devoted to meetings of the state organizations which hold their sessions at the college at the same time the congress is in session, and the afternoons and evenings will be given over to general sessions of the congress in which all delegates and visitors will participate.

Speakers of national prominence will have places on the program of the general sessions. Governor Julius C. Gunter will make the address of welcome to the farmers on behalf of the state of Colorado. Dr. Nicholas Murray Butler, president of Columbia University and one of the most eminent educators of the country, will discuss "Is America Worth Saving?" "What the Trenches Mean to the Laboring Man," will be the subject of an address by Clarence Darrow of Chicago, prominent labor attorney, and a friend of working people in general. Bishop Francis J. McConnell of the Methodist Church will also be among the speakers. Negotiations are now being carried on with other prominent personages and definite announcement regarding this feature will be made shortly.

The officers of the congress are making an especial effort this year to extend to farmers generally over the state an invitation to attend the congress regardless of whether or not they come as delegates from some organization. Every farmer and farm woman in Colorado is welcome at the congress, all can attend any of the sessions in which they are interested, and get all the benefits of the session. All of the college departments will be open to visitors and delegates, and those with special problems will be able to reach technical men and women who will be glad to aid them in their solution.

Tillage and Replanting Helps Native Pastures

HOW DRY LAND FARMER CAN INCREASE THE USEFULNESS OF GRASS

E. R. PARSONS

IN early days the prairies of the semi-arid zone were covered with such a rich growth of grass that many of the settlers of that period were able to cut all the prairie hay they needed for their stock. They cannot do it now. Close pasturing has changed all this; the blades of grass are fewer and further apart, and the bare spots are growing every year.

Nearly every farmer carries stock to the limit, and the pastures are cleaned off to the last bite. It is this practice which is destroying the grass. The pastures need a rest. The cattle eat off the grass and nothing goes back, for the droppings are never evenly distributed but are generally found in one corner where the cattle congregate at night.

In the early spring every blade of green grass counts, and the animals are often moved around when feed is scarce to skin off the green bites as fast as they come, tramping what remains into the mud. The only way to restore a rundown pasture would be to re-seed it, fertilize it and give it a long rest. "Out of the question" some one says. Yes, we suppose so—but we do believe that this running down process may be greatly retarded by a regular alternate system of grazing by which no one pasture would be pastured in the early spring more than once every other year. This system could also be extended to late summer pasturing, for the native grasses should be allowed to reseed themselves at least every other year.

Could a native prairie pasture on dry land be reseeded by the farmer with any chance of success? There is no reason that it could not, provided the seed could be secured, for wherever grass grows the same variety will grow again if planted on the bare spots. Every grass is king in its own environment. It is a case of survival of the fittest. The same kind of vegetation has been growing for thousands of years. If we plant grama or buffalo grass on bluestem land, the bluestem will kill it out; and if we plant bluestem on the grama land the latter will kill it out. Therefore, if we wish to thicken a stand of grass in a pasture it is very unlikely that we could introduce with success any other variety than the one that grows there. Altho there are no American grasses as well adapted to our conditions as the ones we have, yet there is a chance that somewhere else in the world a grass might be discovered which would make more growth and hold its own with our native grasses. The essence of adaptation is time, and it is a well-known fact that since the glacial period the West has been subject to several climatic cycles, one of which geology proves was quite tropical. How long our present climate has existed without change no one knows; but there may be other places in the world where a dry climate analagous to ours has lasted for a much longer period, and it would therefore be only logical to assume that there might be found types of more vigorous growth and greater drouth resistance than any we have here, for the reason that they have had a longer period for adaptation.

Can any form of tillage be used with advantage on our native pastures? Reseeding, disking, and harrowing would help any pasture provided it could have a rest; but in a large, rough stretch of country nothing of the kind could possibly be profitable; but on small, level ranches divided off into different fields a little disking, harrowing and replanting might go a long way. On adobe land, where the growth is principally bluestem, the spring pasturage may be increased by running in fall rye with the disk or the harrow just before winter; but the effects, of course, are not permanent. A small pasture often becomes "hidebound," an overpacked condition from the tramping of the stock which may be relieved by disking. The waste, sandy places in a dry farm pasture close to a creek should be planted to white clover which, if not grazed too late in the season, will seed and keep itself going for years.

Artificial Pastures

Rye is often used for pasture, may be grown like grass, and will last for several years if the seasons are not too dry and it is not allowed to head. It may be used for a lawn if desired, but is not as permanent as lawn grass or alfalfa which does well in this capacity if mowed close with a lawn mower. Rye, if planted early between the corn or otherwise, may be grazed all fall and sometimes up to Christmas, affording green feed for cows and calves. It can be pastured again in the spring and will make a crop of hay by June or July. This hay is more relished by stock if cut at or before flowering time. After it reaches the milk or dough stage the straw becomes tough, and the feeding value is poor on account of indigestibility.

Rye is a valuable dry farm crop for either hay or grain and will outyield winter wheat if given the same treatment, but does not grain heavily when run in on stubble. It may be planted much later than winter wheat, on account of its hardiness and strong germinating properties. Winter wheat is often pastured in Kansas and Nebraska, but in the dry farm country as a general rule it is better not to do so.

The winter growth may be grazed off in the early spring just before the ground thaws out, but after that the tramping of the cattle overpacks the land and cuts the yield. Fall pasturing of winter wheat is not recommended unless it shows a disposition to joint, which our varieties very seldom do. The growth is all needed for winter protection against low temperatures and blowing. In Utah brome grass has been successfully used for artificial pastures and there are some in Colorado on sandy bottom land. It does not amount to much the first year and the farmer often becomes discouraged and plows it up. When planted with alfalfa it will stool and cover the bare spots denuded by the gophers. It lasts for many years when once established.

Alfalfa provides considerable pasture even on the dry farm if carefully used, but if grazed the year round it will eventually die out. Spring is a bad time to pasture it because it destroys the first lot of sprouts, and delays the first cutting. The best time to pasture it is after the third cutting, and the cattle should be put on immediately, for if the alfalfa is allowed to make a growth of six or eight inches, and hungry stock are turned in on it, bloating is sure to result, but there is very little or no danger of this if it takes all day for the cows to get their fill of it. Pasturing alfalfa in the fall does not seem to injure it in the least, but as soon as soft weather commences in the spring the cattle should be taken off. Horses also enjoy this kind of pasture, and once in a while one will seem to get too much of it when there is plenty of growth, and in such a case should be changed off for a few days.

Pasturing pigs on dry upland alfalfa is hardly feasible. This idea of raising hogs on a handful of corn a day and a belly-full of alfalfa is not as easy as it seems. Pigs are hard on a pasture of any kind unless the grazing is good,

(Turn to Page 20)

TRAPPED

BY BEN AMES WILLIAMS, Author of "Three In a Thousand," "Swords of Wax," The Power of Midas," Etc.

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THE PREVIOUS CHAPTERS

Nelson Hobart saw the dory drifting up the bay past his cottage, which was one of a summer colony known as the Barbette, on the coast of Maine, and went out and picked it up. There was a dead man in it. He was a fisherman and had been shot thru the forehead with a Mauser bullet. The members of the colony were, besides Hobart, Bill Marks, a school superintendent; Anne Marshall and her mother, who were there for the first time; Eben Scour, a small and clever man, but a semi-cripple, and several other families of more or less importance. After the finding of the body several reports were received that a German submarine was in the neighborhood, and it was suspected that they had a base somewhere in the neighborhood with the intent to intercept and destroy American transports taking the national army to France.

In the next few days several circumstances arose that led Hobart to the belief that Scour—for whom he had conceived a personal dislike, largely because of Anne Marshall, to whom he had been devoted, had shown a marked liking for the cripple since his arrival—was in some way connected with the activities of the submarines. He took to shadowing him, and unearthed what he conceived to be several suspicious circumstances. At last one day he told Anne of his love, and she refused him with a finality and under circumstances that convinced him she was in love with Scour.

Hobart found himself no match for the little lame man in a game of poker, loser to take a lashing with a dogwhip and to leave the Barbette, but before it came to the final hand Scour caught Hobart with an extra ace in the palm of his hand. He ordered the athlete from his lodgings in disgrace. Hobart continued spying the lame man. He picked up a code message flashed by an intermittent bug-light that was being manipulated by someone on the uninhabited light monument. Later he discovered a microphone in Scour's cabin with wires leading into the bay. Then there appears on the scene at the Barbette a budding naval lieutenant, a suspiciously loquacious chap, who inadvertently blurts out, in the presence of Anne Marshall and her mother, Hobart and Scour, the sailing date of the American transports.

CHAPTER X.
THE ALLIANCE.

It was the next day that Eben Scour disappeared. That is the term Hobart applied to it. Hobart climbed the hill towards Eben's little cottage after he had finished his breakfast, and found the door shut and no sign of Scour. The lame man was habitually an early riser. Hobart's curiosity was aroused; he started to try the door, but hesitated. If he did so, and Eben were inside, the lame man would resent the intrusion. Hobart passed by, returned to his cottage, sought Bill Marks

"I believe Eben Scour is sick," he told Marks.

"Why?"

"His cottage is shut up—and he's usually around early."

Marks looked thoughtful, finally lifted his head decisively. "I'll go see," he promised.

"I'll come along," Hobart echoed, and the two went up the hill together. Marks knocked on Eben's door. There was no reply; and he turned the knob. The door held.

"Locked," he said.

"He may be—dead. We'd best break it in," Hobart urged. Marks shook his head.

"He's gone away," he decided. "Wouldn't lock his door if he hadn't. Wouldn't lock his door if he wanted us to go in!"

"He might have locked it last night—might have been taken sick in the night."

Marks shook his head decisively. "Guess he's all right."

Hobart stood for a moment, irresolute; then he laughed shortly. "Just the same it would be a joke if he is sick in there—alone."

Marks chuckled. "Reminds me of a story Herb Lewis was telling the other day—about a man over at Wellsport. He went to work with a band saw, and didn't know how to use it. Pulled the saw toward him. It cut him up—pretty bad. The doctor fixed him up, and when he came to, the doctor asked him:

"'Didn't it hurt pretty bad when that saw bit into you, Luke?'

"Fellow grinned. 'Sure did,' he agreed. 'But I thought I'd die laughing to see the rags fly.'" He caught Hobart's arm, chuckling at his own tale. "He had a sense of humor like yours. Come on away."

Hobart went reluctantly down the hill with Marks; and all that day Eben's cottage seemed to grin baffilingly at him from the knoll above his own abode. When night fell, his curiosity drove him toward it. He circled it cautiously once and then again, tried the door, and then a window.

The window slid up at a touch; and before he had time to consider the wisdom of the move, Hobart had climbed inside, and shut the window silently behind him.

The blind had been drawn down; it fell into place when he left the window. The interior of the little cottage was black dark. Hobart lighted a match.

The bed had not been slept in; the place was empty. Hobart looked quickly around for the listening appartus. It was not in sight. He crossed to the door, found where the wire came in through a hole in the floor, traced the wire to a closet. The ear-pieces with their bright steel clamp hung there.

He fitted them to his head, sat there in the dark.

For a long time he heard no sound he could define. There were low murmurs and grating noises, the chafing of the restless tide upon the rocks, the rattling of pebbles as the surges lifted them. Then, abruptly, Hobart became conscious of a more definite whisper in his ears. It was a rumble, a whirring sound; and it grew louder.

A staccato bark broke in, loud and sharp. Hobart recognized it instantly for the noise of a power-boat's engine, exhausting under water. Its first intensity decreased, at first swiftly, then more slowly, until the explosions came faint and dull. The other, whirring rumble began to overpower the noises of the explosions.

It was some time before Hobart recognized this other sound. Three days before he had been swimming when the Boston boat passed the Barbette, and had dived for a moment under water. The thrashing of the big ship's propellor had come plainly to his ears. It was recollection of this incident that led him now to identify this sound as that of a ship's screw.

His eyes widened in the darkness; and almost instantly, the sound of the screw ceased. For a long time, there was silence.

It was broken by a tapping on his ears, a tapping concussion of sound with a faintly musical note in it. Hobart guessed wildly. "A bell" he whispered. "Signaling under water."

If the bell was signaling it was in a code Hobart did not know; yet certainly the bell was signaling. He counted the taps: three, one, two, two, five, four, two, two, one, one, one, six, five—

He could make nothing of it; but presently the bell ceased, and another—the sound was more distant, fainter—answered.

It was midnight when Hobart left Scour's cottage. He had replaced everything as he had found it; he had listened for hours to the sounds that came to him. His mind was whirling with conjecture and suspicion. Hatred for Scour made it impossible for him to think clearly. The whole thing condemned Eben utterly in Hobart's mind; yet he perceived that the evidence was not yet complete. He felt the need of an ally. Marks? Benton? Field? He discarded them without a second thought.

Morse? The name was an inspiration. Hobart caught his breath exultantly. Lieutenant Morse was the man to help him, to convict Scour and destroy him utterly.

Hobart slept soundly that night on his resolution. His first glance in the morning was toward Eben's cottage. The door was open; and Eben was standing in the doorway. The lame man had returned.

Hobart saw Marks, half an hour later. "Scour's back," he said.

Marks nodded. "Saw him," he assented. "Had to go to Williamsport yesterday—on business?"

"Williamsport?" Hobart echoed. "How did he go? There's no train."

"Went down by auto."

A thousand questions pressed on Hobart's lips, but Marks was not encouraging. The young man dropped the matter.

Lieutenant Morse went to town with John Benton that morning; and Hobart chafed at his inability to see the man. When Morse returned at noon he was at dinner. An hour later, he crossed along the beach to the officer's cottage.

The lieutenant and Mrs. Morse were on the Marshall veranda with Anne and Mrs. Marshall. Hobart joined them, fretted, strove to manufacture a pretext on which he could get the lieutenant away. In the end, the three women began to talk so exclusively of such feminine matters as knitting white woolen socks for the soldiers that the thing worked out of itself. Lieutenant Morse made an excuse to go to his cottage for a new packet of cigarettes, and Hobart joined him there. When Morse would have rejoined the others, Hobart said quietly:

"Wait. I want to talk to you."

Lieutenant Morse looked at him quickly. "Why of course," he agreed. "Glad to. What was it you wanted?"

They settled themselves, lighted cigarettes. Hobart looked across at the officer. "How long have you been in the navy?"

"Twelve years."

"Like it?"

The lieutenant's rather weak face lighted. "It's the greatest navy in the world."

Hobart nodded. "I think so, too." He flicked away his ashes. "What do you think of an American that plots to defeat it?"

Morse made a gesture of distress. "No American would—none but a traitor."

"I'm speaking of a traitor," said Hobart quietly.

Morse turned faintly pale; he leaned forward. "What do you mean?" he whispered. "Who—"

"What do you think of Eben Scour?"

The lieutenant's eyes widened. "Why—he seems a nice fellow. Lame, of course."

"I'm speaking of him—when I speak of a traitor," Hobart told him.

Lieutenant Morse uttered an exclamation. "That can't be so."

Hobart settled back in his chair. "I'll tell you," he said. "You can judge for yourself."

He told what Marks had told him of Scour's parentage, his Hungarian mother. He went back to the night of the bonfire, the night when the bug-light signaled. Lieutenant Morse interrupted with a cry:

"Why—it was doing that last night! I saw it! I didn't notice it was spelling code."

"Last night?" Hobart cried.

"Yes. I watched it from my bedroom window. I had gone to bed."

Hobart remembered his vigil in Eben's cottage, the mysterious sounds that had come to him through the microphone; and his heart leaped, and then he cursed the luck that had made him miss seeing the signaling light.

"Watch that light the next time you see it acting so," he told Morse. "You'll find I'm right."

"I will," the lieutenant promised. Hobart took up his story.

"Eben was away that night when the light signaled," he said. "I began to suspect him. Then—you've heard about the dory I picked up here?"

"No."

"There was a dead man in it—shot by a Mauser. And they sank a submarine at the mouth of the bay the day after."

"I know about that."

"I began to suspect Scour; and I watched him. Trailed him to town one night. That day we had found a lobster pot buoy near the monument where the light is—and there was a keg fast to it, with a steel cable fast to the keg. Marks notified the government; but when they got there the next day the buoy was gone. I had trailed Scour the night before. He went to the monument in his canoe."

"What do you make of—" began Morse.

"I believe he knew what that lobster pot buoy marked—that he removed it before the government boat got here."

The officer hesitated. "It looks so," he agreed. "What else?"

"Eben went out in his canoe a night or two later. That night the light signaled again—and I saw the flash of a shot near the monument, and heard the report. When Scour came back there was a bullet hole through his canoe."

Lieutenant Morse leaned forward. "The hound. He—"

Hobart lifted his hand triumphantly. "Wait," he urged. "There is more. Scour has planted a microphone in the water off here, and the wire runs to his cottage. He can hear signals under water. I was there last night; I heard the propellors, heard a signaling bell."

Lieutenant Morse leaped to his feet. "I'll go after him. He's a spy. We'll—"

Hobart shook his head; he dominated the little man. "No—wait. We haven't any evidence against him yet. Just my word. Only—I'm sorry you told him when the transports will sail."

Morse flushed furiously. "I was a fool!" he cried. "Mrs. Morse told me so afterward. I never can keep my mouth shut."

Hobart smiled a little. "We'll see he doesn't do any harm."

"Yes, by—"

"I want you to help me."

"I'll shoot him myself."

"No—just help me. We'll watch him—see that he does no harm. When we've evidence enough to—prove him what he is—then we can seize him."

"But—the transports—"

"Can't you warn them—have the sailing changed at the last moment—to baffle the submarines."

"You think—his plan is—"

"I think the Germans are planning to gather a lot of submarines here to harry the transports when they sail; and I think he is to give them the word when to strike."

Lieutenant Morse turned pale. "They might—do damage."

"They might—but they won't. Let him tell them what you said—then warn the—department. Have the sailing date and port changed. Slip past them."

The officers face brightened. "We could do that."

Hobart rose, gripped his hand. "We can do it. We will," he said exultantly. "We'll watch every move he makes—catch him at the last moment. What do you say?"

Morse hesitated. "He may have others working with him."

"We will find them out by watching him."

"Perhaps we ought to get help."

"Not yet. Wait till we are sure. Besides—if we do it alone—you get the credit."

"It would mean promotion," the officer whispered.

"Surely."

They gripped hands again. "I'm with you, Mr. Hobart," the lieutenant swore.

CHAPTER XI.
THE ESCAPE

The two allies found no immediate opportunity to act against Eben, for the lame man during the next three days stayed quietly about the Barbette, along the shore in the daytime, and in his own cottage in the evening. They watched him there through the crack in the walls which Hobart had discovered, and they saw that he wore the microphone on his ears through the evenings.

(Turn to Page 13)

The Christmas Season is at Hand

Christmas, with its cheery thoughts, kind deeds and joyous spirit of giving, is at our threshold.

Those who seek for the Christmas spirit thru gifts are asked by our Government to help conserve man-power.

This can be accomplished best by doing as much as possible of the usual December Christmas shopping in November.

THE DENVER is ready to devote its service to those happily pursuing Christmas plans.

BEGIN YOUR CHRISTMAS SHOPPING NOW

OUR MAIL ORDER DEPARTMENT IS READY TO SERVE CUSTOMERS LIVING OUT OF TOWN WITH A COMPETENT, HELPFUL SERVICE

Write for our HOLIDAY CATALOG, ready November 15, a guide for Christmas shoppers, comprising hundreds of practical gifts.

THE DENVER IS THE STORE OF A MILLION SENSIBLE GIFTS

THE GREATEST DEPARTMENT STORE AND MAIL ORDER HOUSE IN THE MOUNTAIN STATES

THE DENVER DRY GOODS CO.

DENVER, COLORADO

Ten Million Lbs. Pintos Wanted

COLORADO GROWERS GET BIG EXPORT ORDER

Pinto beans are not bringing what the growers had hoped to get. Colorado and New Mexico have been given the privilege of supplying 10,000,000 pounds for export and at the time this is being written, there was every indication that this government order would be filled at a price of 6 to 6¼ cents a pound to the grower. While this price is disappointing, it reflects the condition of the general bean market, there being no discrimination against pintos, as there had been in previous years. That much has been gained thru the purchase of the bulk of the 1917 crop by the Food Administration last spring. The growers will finally control the market if they succeed in forming a close organization, such as Western Farm Life has been advocating.

New Mexico growers are trying organized marketing this season, not on the plan suggested for Colorado, but by means of a contract with a sales manager at El Paso, who is to handle all beans at 6 cents a pound to the grower. An association of growers has been formed in the neighboring state, and various local divisions have established their own cleaners, and they buy sacks in carload lots. They ship their recleaned, sacked beans to the El Paso sales agent, who has a contract for the entire crop of the membership. Just what proportion of the New Mexico growers have joined in this deal is not known to us. The plan is worth watching.

The following review of the market was issued by O. H. Liebers, head of the Bean Division of the U. S. Food Administration for the pinto territory, on November 4, to direct the attention of growers to the fact that pintos are now holding their own in competition with other beans:

To Pinto Bean Growers

On account of the unsettled condition of the pinto bean market, in fact of the market on all food products, we feel it important at this time to make the following statement to the bean growers, setting forth the facts bearing on the industry.

The U. S. Food Administration is not handling the pinto bean crop by means of outright purchase, as was the case with the remaining portion of the 1917 crop last spring. This statement is here reiterated to clear up any misunderstanding that may exist among many growers. The principal reason for not absorbing the crop is that if the Food Administration bought the pinto beans this year the entire bean crop of the country would have a just claim for the same action. Last spring's purchase of pintos was an emergency measure justified by special conditions then existing.

Pinto beans are now able to hold their own in the world's market, and it is up to the growers of Colorado and New Mexico to determine whether this condition shall continue.

Previous to the government purchase last winter, growers were receiving prices as follows:

Pintos.... 5¾c per pound and no demand.
Pinks..... 7½c per pound.
Navies.... 10c to 12c per pound

Pintos were recognized to be worth much more than they were bringing. The discrimination in price being unjust, the government purchase wiped out this discrimination and it has not since reappeared.

Growers at the present time are receiving prices as follows:

Colorado Pintos.... 6c per pound.
California Pinks.... 5¾c to 6c per pound.
Michigan Navies.... 7½c to 8c per pound.

Japanese grown beans, competing with pintos, are offered handpicked and in perfect condition at $5 per hundred, delivered coast points.

During the past few weeks there has been very little demand for pinto beans. We have just received an order for 10,000,000 pounds of pintos thru the Grain Corporation for export. The price for these is 7c net at shipping points, to be sacked in 12-ounce single sacks or 9 to 10-ounce double sacks. They must come up to the government grade, which requires that they contain not more than ½% foreign matter, 2% splits and 2% weather damaged beans. The price of 7c at shipping point, with the requirements stated, should net the grower at least 6c per pound in bulk, recleaned. This order must be filled by December 15—that means recleaned, sacked and actually shipped. If the pinto bean growers want to take advantage of this order they must act promptly; otherwise, this, as well as other government orders, will go to California.

This order, as well as others, is handled exclusively thru the government licensed shippers. Anyone properly equipped to clean and handle beans may procure a license. The government has fixed a margin of profit to the licensed shippers as follows: 10% on the price paid to the grower, plus the cost of the bag. If the shipper also finances beans to destination, he is allowed an additional 5%, based on selling price.

U. S. FOOD ADMINISTRATION—
BEAN DIVISION.
November 4, 1918.

Punishing Food Law Violators

The effective way in which the United States Food Administration is dealing with violations of milling and wheat buying regulations is producing a wholesome respect for these regulations. The J. C. Lysle Milling Company of Leavenworth, Kans., found guilty of grossly inaccurate reports of profits accruing from the sale of flour, was obliged to contribute $10,000 to the American Red Cross, in lieu of prosecution.

Three mills at Winfield, Kans., were found to have cut prices on wheat received on certain dates during August. They were compelled to pay to all parties who sold wheat on the specified dates amounts equal to the cut in price and, in addition, were "permitted" to contribute substantial sums to the Red Cross, in lieu of prosecution under the federal statutes.

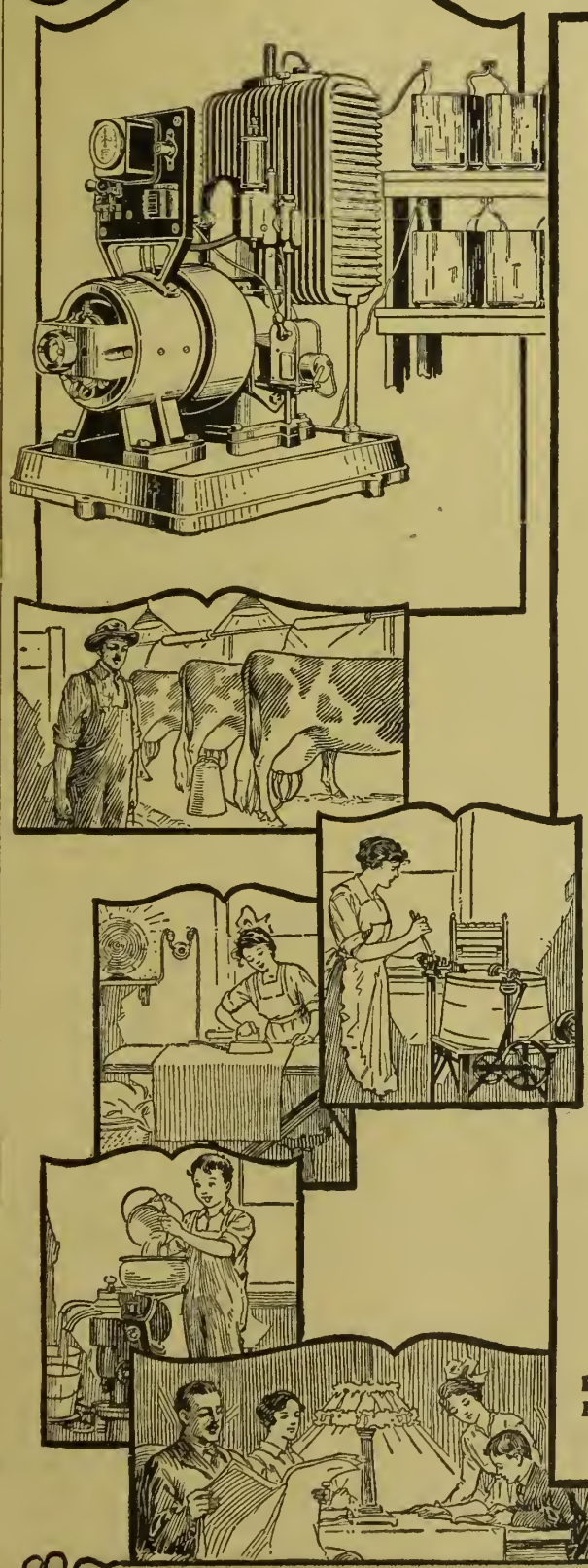
A bakery in Phoenix, Ariz., which for a period of ten days used practically no substitutes in baking bread, was "permitted" to contribute $1,000 to war charities.

Bennett Farmers' Institute

The annual Farmers' Institute of the Bennett (Colorado) district will be held this year November 20, 21 and 22. As customary, there will be a community livestock show in connection with a strong institute program. The Bennett Breeders' association has recently added some fine animals to the list of good stock in the community. Mr. George J. Renner bought some of the fine purebred Holstein cows at the Donley and Simpson sale in October. These are the first purebred Holstein females to be brot into the community. There are a number of good bulls, but the she stock has all been of high grade but not registered.

Mr. C. D. Haupert also made a trip for the association, buying twelve head of purebred Shorthorn heifers and a purebred bull of the same breed, these animals going into several of the Shorthorn herds in the district. They are of Bates strain and are to serve the double purpose of increasing milk and meat production. The new purchases will add considerably to the interest in the community stock show, which is always such a good feature of institute week at Bennett. Good speakers are being secured for the occasion and farmers are urged to plan their work so that they can attend on all three days. The Agricultural College will send a livestock judge and also furnish a part of the speaking program.

ALAMO Electricity



For Every Farm Department—

Every Member of the Family

IN the business of farming, electricity has become invaluable. It is a great aid in getting and keeping hired help. It is a valuable assistant in the war work of the farm.

The Alamo Unit helps the farmer to cultivate more acres by freeing him of tasks that electrical power can do in less time and do better. It floods his house, barn and other buildings with bright, *safe* light and operates dozens of farm utilities.

A Great Home Need

Relieving the burden on farm women is a feature that makes the Alamo Unit a necessity for *every* farm. The drudgery of washing, ironing, churning, sweeping and many other home tasks can be done away with. Early morning and evening work can be done with less fatigue under bright electric lights. It makes homes brighter and happier for *all* the family.

The Simple, Durable, Reliable Unit

The need of farm electricity being evident, you can do no better than to investigate the Alamo. It is the efficient unit—perfectly balanced and fully perfected. It runs without vibration or noise. It requires no special foundation. It is economical, built to last a lifetime, requires but little attention and operates at low cost.

Alamo's engine—the Ide Super-Silent—is a power marvel of sturdy construction with no complicated parts to get out of order—no springs, cams or rods. The carburetor is designed with a new fuel-saving device. An electric governor—the simplest type made—guarantees rated speed and assures proper charging of batteries.

Get These Facts Now

Send today for further information about Alamo Electricity and the Alamo Unit. These are vital facts every farmer should have. Use the coupon for convenience—or a postal card or letter will do. Send now.

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"THE NATION KNOWS THE ALAMO"

What Is Your Net Income?

TAX SLACKERS WILL BE CHECKED UP

FARMERS must make an income tax return to the United States early in 1919, on their operations for the present year. While changes in the revenue measure are still pending in Congress, it matters not what these will be insofar as making a return is concerned. That must be done by practically every farm operator, owner or renter. And those who may find their income insufficient to contribute a portion of it to Uncle Sam's coffers will, nevertheless, have to be in shape to show their financial condition in figures. The point is, no farmer is safe unless he keeps an account of his operations. This holds regardless of the minimum income figure to be fixed in the amended revenue law. Some system of farm accounting is absolutely essential these days, when the lack of system may cause the farmer to get in trouble with the Internal Revenue collector.

This applies, of course, to citizens of all classes, and not to farmers alone. The wage earner in town, or the city business man, finds it much easier to figure out whether he has any income tax to pay, because his income, if a wage earner, is on a fixed monthly or yearly basis, or if a merchant, he is already keeping books on all items. With the farmer the keeping of accounts is not the rule but the exception. A great majority of farmers do not know whether they are making money or not, because their method of keeping account of income and outgo is temporary or haphazard, applying perhaps to the important transactions only, and not to the everyday business of the farm.

However, since the passage of the income tax law, which went into effect about a year ago, practically every farmer has made the discovery that this free and easy way of bookkeeping will not work. He has been forced, by his country's call for more revenue, to make a more systematic record of his operations. Many farmers are doing this now; others have managed to slip thru so far without taking the necessary precautions, but word comes from the Internal Revenue department of the United States government that there will be a more stringent application of the law in 1919. Tax slackers will be hunted down with the persistence for which Uncle Sam's revenue service is noted. Ignorance of the law or failure to actually know whether or not a person has taxable income, will not absolve one from the penalties provided for the violator. The lesson in this is to be prepared by procuring a good system of farm accounting that will enable the farmer to make true answer to the revenue officer. The following blank furnished by the United States Treasury Department contains the items of income and deductions on which the farmer must be posted:

TREASURY DEPARTMENT,
INTERNAL REVENUE SERVICE,
Denver, Colo.

FARMERS' INCOME

Cash received from farm crops..$.....
Cash received from sales of stock .....
Cash received from rents..... .....
Cash received from interest..... .....
Cash received from corporation dividends ....
Cash received from sale of land. .....
(Value March 1, 1913, or cost if purchased since, $.....)
Cash received from other sources .....
Total .....$.....

DEDUCTIONS

Paid for business expenses.....$.....
Paid for interest ....
Paid for taxes ....
Paid for live stock ....
Depreciation on machinery and improvements ....
(Cost of machinery, $.....)
(Cost of improvements, $.....)
Total .....$.....

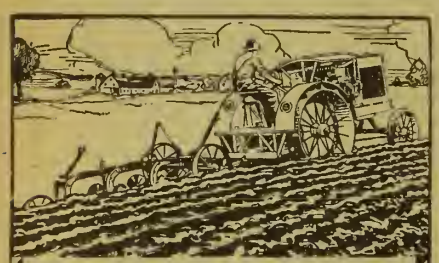
Western Farm Life is prepared to advise its readers in regard to income tax matters and to put up questions to the Internal Revenue officers for reply. By December 1st it is hoped that the amendments to the law will have been provided for, so that more definite announcement can be made as to the exemption figures. Last year only those heads of families having a net income of $2,000 a year or more, or of single men having a net income of $1,000 a year or more were obliged to make returns. The new provisions, it is believed, will lower these figures, so as to take in practically everybody. What is your net income? How can you determine this if you do not keep account of your transactions? These questions must be answered by each and every citizen who desires to loyally support his government.

Takes Charge of Dehydration

Mr. Lou D. Sweet of Colorado, who has been handling matters pertaining to dehydration for the Food Administration, has been appointed to take charge of dehydration for the Department of Agriculture, which has recently been granted an appropriation of $250,000 for work along that line. Mr. Sweet will remain a member of the Food Administration, acting as its representative with the Department of Agriculture.

The Department of Agriculture will inaugurate a campaign to increase the use of dehydrated fruits and vegetables, which compare favorably for table use with the fresh article. Showing the necessity for this campaign, attention is called to the fact that about 8,000,000 pounds of Irish potatoes were "thrown to the dump" in New York City alone last January, having been frosted and rotted in transit.

The War Department has already recognized the value of dehydrated produce. Last spring the army ordered and used 14,000,000 pounds of dehydrated foodstuffs, costing about $3,000,000, and during the past few weeks have placed orders with the Canadian and American dehydrating plants for more than 40,000,000 pounds to be manufactured and delivered between now and July 1, 1919. This represents an expenditure of about $10,000,000. These orders have included chiefly potatoes, carrots, onions, and a small supply of soup mixtures. The soup mixtures comprise eight different vegetables.



Plow an Acre an Hour—on Kerosene

HUNDREDS are doing it and more with the "Allwork"—the light tractor that's different. Burns kerosene perfectly—has the largest 4 cylinder motor on any 3 plow tractor—mounted crosswise on the frame. Direct spur gear drive, no intermediate; belt pulley on direct drive from crank shaft extension. Four wheels; turns in a 12 foot radius. The

Allwork KEROSENE TRACTOR

is proving one of the biggest successes in light tractors. Its low upkeep cost, all around usefulness, ease of handling, great store of power make it the popular tractor everywhere. Built with the construction that insures years of good service—backed by an organization that can give you quick, dependable service. Satisfied owners everywhere. Write today for special folder.

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ALLWORK ALWAYS Burns Kerosene or Gasoline

Hand Pull Lateral Gates

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Write for our free 125 page catalog, which illustrates and prices these gates, as well as more than 65 other articles for the irrigator including the "Armco" flumes, ditch lining, pipes, culverts, tanks, troughs and grain bins.

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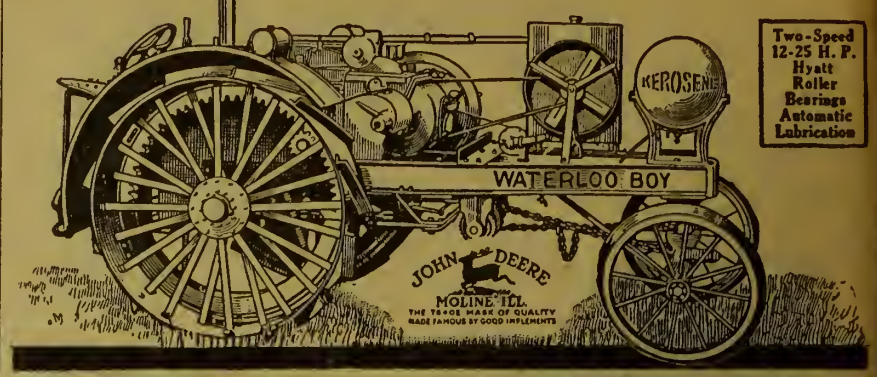

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Geo. W. Brending, Milford, Ill., writes: "Your tractor has given complete satisfaction. I plowed seventy acres in eight days with a three-bottom John Deere Plow; did most of my discing with it using two 18 in. wheel discs at all times. Kept close record of operating cost—$2 per day paid for all fuel and lubricating oil when doing a full day's work."

Chas. W. Carlson, Stromburg, Neb., writes: "Your tractor is O. K. It is cheap to operate—not more than two gallons kerosene to the acre, plowing good depth, with 3-bottom 14 in. John Deere Plow. Plowed old alfalfa, sod pasture, stock and stubble ground without trouble. I use the tractor to pull 28 in. thresher and thresh 33 loads of wheat to a barrel of kerosene."

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Try This One-Man Stump Puller 30 Days FREE

SEND NO MONEY!

If you have useless stump land, I want to PROVE to you on your own stumps—*30 days before you pay me a penny*—that ONE MAN with my famous Kirstin Stump Puller can pull big, little, green, rotten, low-cut, tap-rooted stumps, hedges, trees or brush. I want to convince you that this is the easiest, quickest and cheapest way to pull stumps.

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One Man Alone Handles Biggest Stumps!

I pulled one pine stump 3 ft. across top. My One-Man Kirstin pulls bigger stumps than I ever expected.
Mr. I. Erkkila, Calumet, Mich.

My Kirstin pulls stumps up to 2 ft. blind maple 8 to 16 inches. Pulled tree 150 ft. high and 22 inches at base, in 15 minutes.
A. H. Jeffery, Goble, Oregon.

My Kirstin pulled stumps we thought it could not pull.
Mr. E. A. Buckley, Bay Springs, Miss.

After 30 days trial—if satisfied, keep puller. If not pleased, send it back at my expense. *You don't risk a penny.* Four easy ways to pay.

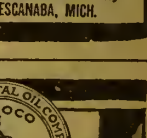
Single! Double! Triple Power!

Kirstin One-Man Stump Puller Single, Double, Triple Power!

Weighs less—costs less—yet has greater *speed, strength, power* and *lasts longer!* Clears one acre from one anchor! Easily moved around field. A few *pounds* pull or push on handle exerts *tons* on stump—due to wonderful leverage principle. 3-year guarantee against breakage!

Get My Big New Book NOW!

Tells how one man pulls stubborn stumps in few minutes at low cost. Explains all about different speeds. Also patented quick "take up" for slack cable. Describes Kirstin one man Clutch Model; Kirstin One Man Drum Model; and Kirstin Horse Power Model. Get the book and Special Agents' Offer. Shipment from nearest distributing point saves time and freight. Write today.



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on your axle and prevent friction. It is made of the finest grease stock and powdered mica. It fills the pores and gives the axle a bright, hard coating.

THE CONTINENTAL OIL COMPANY
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Denver Pueblo Salt Lake City Cheyenne
Butte Albuquerque Boise

Motor Truck Transport Service

HELP FARMER SOLVE THE MARKETING PROBLEM

Motor truck transportation is needed now as never before to relieve the serious shortage of farm labor, to increase production and to open up communication between points, thus relieving the railroads of much of the congestion which threatened to break down the national system last winter.

The work is one of peace value as well as of war, and the work of the Highways Transport Committee will continue regardless of the war ending. It is generally recognized now that motor truck transportation means better roads, lower cost of living, increased production, more efficient transportation, closer communication between farmers and rail points, and, in addition, that it is one of the most important works ever undertaken by the government.

The movement has the indorsement of every official of the national government from President Wilson down, and the meetings which will be held in this state November 15th, should be attended by shipper, farmer and merchant, not only from a patriotic standpoint, but from that of their own business interests as well.

S. E. NORTON,
Chairman of Executive Session,
Colorado Committee.

The establishment of rural motor express lines is working to the advantage of the farmer and aiding the nation's crop production program. This is true in many parts of the Rocky Mountain region where the transportation problem has always been serious, because of sparse population and the high cost of construction and operation of steam roads. The motor truck has partially solved this problem and relieved the load so that car shortage is not being so keenly felt this fall as was the case a year ago. Sections remote from railroads, where railroad promotion schemes have flourished in the past, are now turning their attention to the rural motor express, seeing in that service an economical and quick method of putting them in permanent touch with markets.

The action of the Council of National Defense in giving governmental sanction to the project for supplying motor truck lines to help carry the traffic of farm products and merchandise has already been of vast benefit and will continue to be of advantage to the nation and to the producers of food.

Friday, November 15, was set aside by proclamation of Governor Gunter as Highways Transport day in Colorado. On that date meetings were to be held in every community of the state under the jurisdiction of the Highways Transport Committee of the State Council of Defense, at which speakers brot home to the shippers the need for increased use of the motor truck as a means for transportation, not only from a military but from an economic standpoint. Some of the advantages of motor truck service may be summarized as follows:

1. To increase the food supply by furnishing regular transportation of farm products.
2. To stimulate the farmers' efforts by the knowledge that such transportation is available.
3. To enable the farmer to avoid driving to town, thereby increasing his time on the farm and partly compensating for the shortage of labor.
4. To enable the farmer to obtain goods from town on the day of order.
5. To generally facilitate traffic between the farmer, the market and the consumer.

Specific advantages, considered from the standpoint of increased food production alone, are:

Fruit, vegetables, milk and eggs arrive in market or direct to door of the consumer fresh and desirable on the day they leave the farm and command the highest market prices.

Number of handlings is reduced from half a dozen or more to only two.

Breakage of crates, damage to goods, and loss by theft are reduced to almost nothing, as proved by experience.

Small shipments that could not be hauled to market profitably by the producer can be sent by motor express, thereby increasing the quantity received by the city and adding to the farmer's income.

Trucks stop at the farmer's gate to pick up freight, saving a drive to the railroad station.

Seeds, farm implements, repair parts for machinery, groceries and anything else required on the farm can be obtained from the city the day they are ordered by telephone or through the truck driver.

Horses can be kept steadily at work in the fields, or the number of horses required by the farmer can be reduced, thereby saving the heavy expense of feeding during the winter.

Clean Threshing Saves Grain

Cleaner harvesting and threshing in the United States have come to stay, according to reports received by the U. S. Food Administration from threshermen, farmers and local representatives in grain growing states. The so-called "blanket test" has shown thousands of grain producers how to determine when a threshing machine is operating properly, and has been especially impressive. Other methods of farm conservation have resulted in further large savings of marketable grain.

Of 33 grain states where efforts toward cleaner threshing were centered, two-thirds have already reported an aggregate saving of 16,000,000 bushels of wheat. Many of the other states, altho not prepared to make estimates, reported greatly reduced harvest losses. In addition to wheat, at which the clean threshing campaign was especially aimed, there have been corresponding savings of other grains which are harvested and threshed in much the same manner as wheat and usually with the same machinery. An average of several thousand tests showed that raking shock rows saved about one bushel grain per acre. In the past this operation has been an infrequent practice.

British Feed Restrictions

The effect of war on agriculture in Great Britain is strikingly shown by regulations now in force affecting feeds and bedding. Among restrictions of unusual interest are the following:

The use of straw for bedding purposes is forbidden. Oat straw in particular may be used only for feeding purposes.

All persons owning horses entitled to limited supplies of hay, straw, chaff and cereal feeding stuffs, must keep records showing the number and class of horses, and full facts regarding source, kind and amount of feed used.

The occupier of an agricultural holding may not sell or part with the possession of any horse, which is used, or capable of being used, for the cultivation of the holding, except with the authority of a license.

When it is realized that these orders are necessary war measures, the importance of voluntary feed conservation in the United States is apparent. The U. S. Food Administration especially asks for elimination of all feed waste, and utilization of farm by-products to which little attention may have been paid in former years. During the year ending July 1, 1919, we must export 2,700,000 tons of feed grains (mostly army oats) overseas. This amount is 750,000 tons more than last year, and must come from our present supplies.

Canada Commandeers Butter

In response to an urgent appeal from the British Ministry of Food for increased shipments of butter from Canada the Canadian government has commandeered all creamery butter made in the provinces of Alberta, Saskatchewan, Manitoba, Ontario and Quebec between September 30 and November 9, inclusive, and put Canadian consumers on an allowance of two pounds of creamery butter per person per month.

Great Britain and the allies have been short of butter for many months, and altho an Englishman's allowance is only one-half pound of butter and one pound of oleomargarine a month, the government finds it difficult to maintain this meagre ration. The principle of the "Common Table" is the basis of this order limiting the consumption of creamery butter in Canada. If tonnage permitted greater shipments of butter, Canada would no doubt, limit home consumption still further in order to supply a fairer ration for the English table.

J. I. CASE PLOWS

IN J. I. Case Tractor Plows the "drag" of furrow bottom and land slide pressure has been eliminated. All the weight of the frame is carried on J. I. Case dust-proof, easy-lubricating, long-distance wheels.

That's why this Tractor plow "rides" like a wheeled vehicle instead of dragging like a stone boat. That's also why more acres per day and deeper plowing are possible—and extreme fuel economy is attained.

In addition, the J. I. Case Tractor plow is easily handled from the seat of the tractor; has a simple, sturdy power lift; and enters and leaves the ground instantly, points first, like a walking plow. Thus less labor is required and a more uniform quality of work is done. The Tractor is made a more profitable investment.

See your J. I. Case dealer today. He is a dealer who will justify your faith as well as ours.

J. I. CASE
Horse Drawn Plows
Sulky, Gang, Walker models. World's lightest draft. Flexible beam and "floating" bottom insure uniform penetration and prevent shares from breaking. Strong, dependable, convenient.
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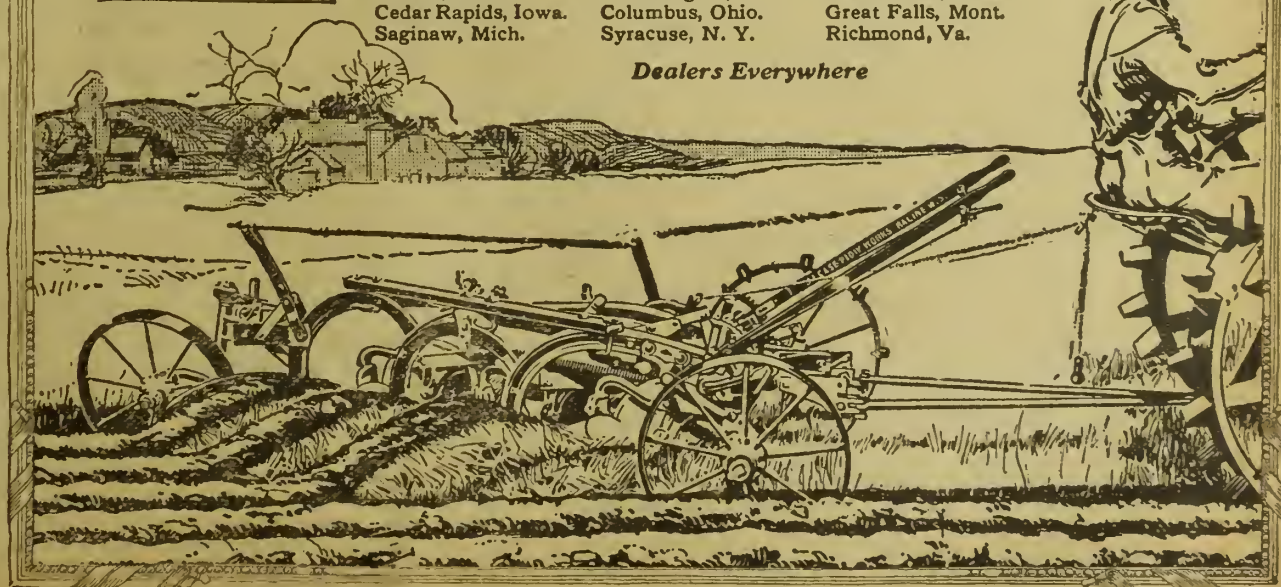

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ELIAS M. AMMONS.....President
W. S. EDMISTON.....General Manager
ALVIN T. STEINEL..Managing Editor

DEPARTMENT EDITORS

E. R. PARSONS.....Dry Farming
GEO. E. MORTON..Dairying and Hogs
W. E. VAPLON.....Poultry Raising

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Lands for the Soldiers

A plan that has been under discussion for several years was finally carried into effect at Kansas City last month, when the Dry Farming Congress and the Irrigation Congress decided to merge. The organization is now known as the International Farm Congress, which was the corporate name of the Dry Farming Congress. It is announced that the organization will be active in furthering the plan of Secretary Lane for settlement of returned soldiers on reclaimed lands after the war. This plan covers only irrigation of semi-arid lands, drainage of swamp lands and development of cut over lands, and not the arable dry lands of the West.

We see no reason why the so-called dry lands should not be included in schemes for settlement after the war. They can be, if the states in which these large bodies of land are located, will take stock of their resources and force these lands into production. In Colorado the homesteads available under the United States laws are comparatively few, but there is a tremendous acreage of first-class dry farming land held by the state in trust for the school fund. From time to time a few tracts are offered at auction to the highest bidder. This may be the best way of getting immediate cash returns for the school fund, but it is a mighty shortsighted way of securing proper development of farming on the lands.

In view of the expected demand for homes by returned soldiers the legislature, which meets in January, 1919, should include in any action on Secretary Lane's plan, an investigation of the arable dry lands, both those held by the state and those privately owned and held for the most part by nonresident owners who are awaiting speculative increase in values.

If the United States Reclamation Service finds it feasible to not only provide a water supply, but to actually plow and prepare a seed bed for settlers on irrigable lands we see no reason why a similar preparation of ready-to-sow farms should not be had on lands that cannot be irrigated, but which will produce profitable crops under so-called dry farming methods. There is not the slightest difference in the two propositions, except that it takes an enormous amount of capital to develop the irrigable lands.

The argument made by proponents of the Lane plan that this is the very reason for restricting it to irrigable lands, because the settler is able to take care of himself on non-irrigable lands, is refuted by the application of the Lane plan to the cut over lands of Minnesota, Wisconsin, Arkansas, Louisiana and other states where reclamation of cut over areas is largely a matter of pulling up stumps and not a swamp drainage proposition. The clearing of stump lands which are not under water is a matter of $10 to $30 per acre. If such areas are to be included, and we see no reason why they should not be, then it will become a perfectly legitimate function for state or national governments to break up the prairie sod, bore wells and perhaps fence dry farming lands, especially as this is to be undertaken for the benefit of returned soldiers.

This point must be borne in mind: the returned soldiers who will desire opportunities for land settlement will not be burdened with capital and to most of them land that can be brot under the plow at from $25 to $50 per acre will be far more attractive than that selling at $90 to $150, no matter how generous the terms of payment.

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Doctor Lory's Sacrifice

Dr. Chas. A. Lory, president of Colorado Agricultural College, has again declined to leave his post to enter a field which would bring him more prominence and larger personal rewards. This time the temptation must have been doubly hard to resist because the call was for war service, the thing which is uppermost in the mind of every red-blooded American, and to have a hand in which every able-bodied man is wishing an opportunity.

An Army Overseas Educational Commission has just been organized under the auspices of the National War Work Council of the Y. M. C. A. and Dr. Lory was selected as a member of a party of twenty-five prominent educators who will sail for France the middle of November. Dr. Lory was asked to serve as regional director in agriculture in the educational work being carried on by the Y. M. C. A. among the soldiers of the United States. The invitation came in a letter from President Kenyon L. Butterfield of Massachusetts Agricultural College, a member of the commission and in charge of the vocational and agricultural branch of the work.

In his telegram of declination Dr. Lory told President Butterfield that he felt conditions here made it imperative that he remain at his post, and that he did not feel that he should ask for a leave of absence. The entire college organization has been running at high pressure ever since the United States entered the war, leading the work in food production and conservation in Colorado, aiding the State Council of Defense, of which Dr. Lory is a member, training soldiers along technical lines, preparing for the training of the members of the Students' Army Training Corps, as well as carrying on its normal functions of education, research and extension. During recent weeks the great machine on the campus was suddenly stopped because of the influenza, with resultant disorganization. It is being started again just about the time the commission is sailing for France. Dr. Lory was unwilling to shirk these responsibilities. He was unwilling to thrust them upon the shoulders of another, and his unswerving loyalty to Colorado and her people prompted the telegram declining the honor to go to France.

The plans of the commission call for 1,000 educators to go to France to assist in the educational work of the Y. M. C. A. among the United States soldiers. There are now over 200,000 soldiers enrolled in educational classes. This work will be greatly enlarged when demobilization is begun after the war. It will probably take at least two years to bring home all the soldiers that have been sent to France, and during the demobilization they will have much time which they can devote to education.

Seven geographical regions have been established for the agricultural work, with headquarters at Tennes, Bordeaux, Tours, Havre, Paris, Toul, and Dijon. Dr. Lory would have been located at one of these points as regional director had he accepted the appointment.

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The Hog Situation

On the Dairy page of this issue Professor Morton reviews the hog market situation, outlining briefly the details of the new agreement reached between the Food Administration, the hog producers and the packers, by means of which a minimum of $17.50 is put into effect for November, with a good prospect of maintaining a safe minimum during future months. It is gratifying to note that the farmers of the mountain states had an able representative on the committee of producers, Mr. John Grattan of Broomfield, Colo., who is a member of the National Agricultural Advisory Board that is called into consultation on matters relating to agriculture in relation to war production. Mr. Grattan, on his return from the latest conference at Washington, expressed himself as highly pleased with the attitude of the packers, who have evidently come to the conclusion that the producer should have a voice in determining prices. He states that Mr. Hoover gave the hog situation his personal attention, and it is largely due to Mr. Hoover's insistence on fair play all around that we find the hog market steady instead of panicky, as was the case a month ago.

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Horse Meat Propaganda

There was published recently in Weekly News Notes, the official organ of Colorado Agricultural College, another article advocating the use of horse meat as human food. We have heretofore passed over this subject in a spirit of levity, but the propaganda is growing so persistent that it deserves serious attention, altho the contributions, so far, represent only the individual views of certain professors. The livestock producer who reads these articles in the country newspapers, as clipped from News Notes and credited to the college, is not to be blamed if he gets the impression that the institution has given official sanction to the horse meat propaganda.

It has been charged that raisers of meat animals, who object to the statements of the professors, are actuated by selfish motives, but such a charge will not silence these patriotic farmers who have continued in the game thru seasons of loss as well as profit. They have a right to resent attempted interference with established forms of meat consumption and a right to expect college aid in working out economies in production.

No authorized governmental bureau is asking the American people or our allies to lower the standards of food, such as is certainly involved in the horse meat propaganda. There is some motive other than the effort to "furnish meat for the poor laboring man"—quoting from the article in News Notes

We can find no demand of necessity and no emergency—nothing at all back of this except a sordid desire on the part of a few meat peddlers in congested Eastern cities who want to sell the carcasses of castoff dray horses to slum dwellers. In some way the subject has been dignified by discussion at meetings of veterinarians and in veterinary medical publications. The topic may be interesting as an abstract scientific proposition, and it has just enough of the sensational to cause the daily papers and the non-technical journals to give it wide publicity.

We have no fear that this publicity will cause the public to turn with longing to horse meat, but it does have the effect of bolstering up the attempts of the horse meat peddlers, a few of whom have become established. It would require a century to break down public prejudice against eating horses, but it only takes a little while to cause uneasiness among breeders and finishers of meat animals in these times of disorganized markets.

Safe food reserves are the only insurance against food disasters.

The 1918 harvest does not belong to us; we in America are only the trustees.

WHAT ABOUT FARMING WHEN PEACE COMES?

Affairs in Europe are shaping themselves toward a decisive peace: a peace with glorious victory that will mark the death of German autocracy and the passing of William the Second—and last—of the Hun emperors. Whatever may take place in the industrial world during the uncertain period of reconstruction will matter little in the light of the great accomplishment of the Allied Nations, who have given the death thrust to the fable of the divine right of kings.

Some profess to believe that the period of readjustment will be accompanied by panic in the world's markets, but for this belief there is no foundation. If panicky conditions occur they will be due to a fear of something that does not exist. Peace will not restrict but widen our markets. This is particularly true of food products, but the measure of our export trade will still be shipping, tho the demand for food will be larger than at present because territories hitherto shut off from the Allied world will be crying for a part of our bread and meat.

More than two million American soldiers are in foreign lands, and the transports are still going over. Months may be required to change the direction of the current and military authorities declare it will take at least two years to bring back the army. Food must be furnished them for this period. Food sharing with the Allies will go on just as agreed, for there is no other source than America from which this can be supplied before another crop comes in. The world's food situation, as reported by the Food Administration, is summarized as follows:

Crops in 1918, in the aggregate, are not really in excess of the previous year. There is an increase of 268,000,000 bushels in wheat, 51,000,000 bushels in other grains and 3,000,000 bushels in beans. But this is offset by a decrease in corn amounting to 442,000,000 bushels, 52,000,000 bushels of potatoes, 52,000,000 bushels of oats and 2,000,000 bushels of sweet potatoes. Comparing the nutritional value of the crops of 1917 and 1918, they are about the same, in spite of the 1918 decrease in total bushels of all food produced. Against these figures we must place a promise to deliver to the Allies 50 per cent more than during the previous crop year.

The world's shipping has been reduced about 40 per cent since the war started, by reason of submarine sinkings. Ships have been held to the shortest food routes because ships are scarce. Cessation of hostilities will not increase the number of ships, nor make it possible to suddenly carry the cereals of South America, Australia or India to Western Europe. The distance from New York to Liverpool is 3,000 miles; from Buenos Aires, 6,280 miles; from Bombay, 10,680 miles, and from Australia, 11,890 miles. That is why there will be no diversion of vessels from the Atlantic. Every ship will be needed on the present trade route to take food over and bring soldiers back.

It is estimated that restoration of peace will add to our burden of mouths to feed at least 180,000,000 people in Poland, Rumania, Serbia, Armenia and European Russia. And then there is Germany—for whatever happens to the rulers of the enemy, its people will be legitimate bidders for food in our markets when the war is ended. Considering these conditions, what is the farmer to do? Keep on producing bread, meat and milk. The wheat price guaranty covers the crop now in and world conditions indicate that there need be no fear of over-production. Before planting time next spring, the atmosphere will be clear, so that the farming program can be resumed along more normal lines for the mountain region with less emphasis on grain and more on the safe system of farming on a livestock basis. In the meantime, don't rock the boat.

Alvin T. Steinel

Comment by Farmer Putnam

MISSOURIAN TAKES A FLYING TRIP TO CHEYENNE AS A PRECAUTION AGAINST INFLUENZA

WHEN I told Josephine the other day that I was a-goin' to Cheyenne, on business, she flared right up and sez:

"Cheyenne! You ain't a-goin' to no sech place before election. You kin go any place you want to after election and not be in danger of booze, exceptin' to hell or Missouri, because everywhere's else is goin' dry, but don't you think I'm goin' to let you run into the lion's jaws before November 5th. You're puffectly safe in Colorado and you'll stay outen Wyoming till that time."

I'm writin' this before election, so I don't know how this dry vote is comin' out in Wyoming, but I reckon Josephine is guessin' right. I knowed they was no use tryin' to argy with her about it, because when that woman puts her foot down nothin' short of a derrick kin move it, fur I don't mind sayin' it's a No. 8, wide last. Well, as I was sayin', I knowed it wouldn't be no use to argy, so I tried a little war stragedy and sez:

"Josie" (that pet name allus makes her soften up a bit), "Josie, I don't care to go if you object, but I thot I oughter do it fur the protection of you and the boys. This here fluenzy, you know, demands drastic measures and the Doctor told me—"

"What doctor told you?" she broke in. "Doc. Grover, probably?"

"Doc. Glover did tell me and he'd oughter know even if he is a vet., what is good fur humans. I was to see him about our cow, Daisy, that's got the swellin' on her knee joint."

"What'd he say about the swellin'?"

"Sez she ought to have a tonic—bitters or somethin' I reckon he meant; and that if that didn't do any good we'd have to have it lanced. Well, you know we cain't git no tonic in Colorado withouten a permit, so I was goin' to drive up to Cheyenne with a coupla business men on business and bring down what remedy we need fur the cow and to keep off the fluenzy fur the family."

"Sounds reasonable enough, Tom, but who is that a-goin' with you?"

"Mr. Liebers of the Food Administration, Mr. Lamson of the Burlington at Chicago, and Bob Smith of the U. P. at Omaha."

"Well, if you're a-goin' with Mr. Liebers, why it's safe; I don't know about them other fellers. Will you take the pledge ag'in before you leave?"

"I kin take it before I go, but I'm in a hurry Josie, and if you'd just as soon wait till I git back I'll take it twict."

"Oh, go on, I'll trust you just this onct, but if I hear of any goin's on while you're up thar in that wicked town, why you know what to expect."

Well, we went and we got back, and Josephine hain't heard nuthin' contrary to her instructions, because I'm here to say that so fur as licker is concerned it don't interest me. I kin recolleck back in the old days in Missouri when a man that claimed to be a gentleman had to have a decanter on the sideboard all the time and when friends come in why no business could be transacted without clinkin' the glasses. But that thar day is past and gone and it's never comin' back. Of course, durin' the fluenzy scare some people had to have red licker to discourage the germs, and I reckon it'll do it. No self-respectin' germ kin stand up under a injection of this here stuff that passes current fur booze in them dry states, and if the victim kin stand the remedy he'll probably be able to resist the disease. It's hard to tell which is worst.

That was serious business what we went on to Cheyenne to talk over settlin' soldiers on the farms after the war. We got a lot of fine land out here that's not been took up yet, some of it as good as any that lays outdoors. All it needs is water on to make it produce crops that'll put a crimp in that thar European hunger. That's what I want to tell you-all about this time. We kin all furgit about our booze and other so-called pleasures and git right down to the serious business of straightenin' out this here topsy turvy world. Us farmers has been doin' a big share in helpin' win the war, and that part is just about over. Now some of us is durn good fighters; others is more fit to build up after the fightin' is over. I reckon I belong in the latter class, but durn my hide, I was ready fur the fightin' end of the game and all signed up, waitin' the call if needed.

I got a line the other day from one of my old friends down to Washington on the hunger situation. The end of the war is goin' to bring that out more than ever. Over there on the east front where them Turks and Bulgarians has been slaughterin' the innocents fur four years is millions of people just about starvin'. My, how good some of our pinto beans would taste to 'em right now. They don't even dream of eatin' beef or pork. And then in Belgium and France, where them Huns shelled off even the trees and dug up the soil or pizened it so's nuthin' will grow, why there's a population of farm and factory people that's numbered by the tens of millions. We got to keep sendin' the stuff over to 'em as quick and as cheap as possible, so don't git the idear that because the war is nearin' its end our job of food production is done. It hain't more'n just begun.

Now what we kin do is to fix our program a little different. We in these here mountain states has got to git back to livestock, both beef and dairy cattle, and lop off a little on cash crops. We kin increase the meat production quicker than anywhere's else, because we got the right conditions fur stock farmin'. We're just startin' in in this state on a silo campaign, and Prof. Clark of the college has hired me to help out by gittin' you folks interested, so if any of you wants to know about silos drop me a line and I'll be glad to give free information.

Fur the benefit of one of our readers in Routt county, who don't want his name mentioned, I wish to say that, so fur as I know, silage juice ain't intoxicating' onless used at just the right time. If the corn has plenty of ears on it when put in, and it is ripe enough to have some sugar, why I don't see no reason why it shouldn't make a fair sort of bug juice when tapped before it gits thru fermentin'. I don't think your plan of ketchin' the juice thru a spigot in the side of a silo and puttin' it up in jugs will be satisfactory, because if you drain off the juice your silage will be too dry to make good feed and you will be too wet to make a good feeder. The quality of the licker you'd git might do fur snakebite pizen, but it would be sech as no gentleman would drink if in his right mind. Don't put up a silo if you think you're goin' to git a cheap distillery in that way. But if you want to make money with cattle, why you'd oughter have two or three silos.

THOMAS JEFFERSON PUTNAM.

Here are some want ads from a Tr'este (Austria) newspaper which need no elaboration or explanation:

"Iron bed, pair of black trousers and coat offered in exchange for foodstuffs."

"New novels, large collection, in exchange for five pounds of food."

"Finest stockings, lady's, colored, in exchange for sugar or fats."

"Linen sheet wanted to make into a dress, for cash or maize meal."

"Yellow canary in exchange for a rabbit, Japanese vases for fats or beans."

"A business suit offered in exchange for one pound of fat."

LALLEY LIGHT & POWER

Doing Necessary Work Every Day in the Year

Lalley-Light power performs essential farm work every day, and saves approximately 250 man-hours during the active farming season alone.

Eight years of practical farm use have shown Lalley-Light to be an economy and a necessity for the average farm.

The nearest Lalley-Light dealer can give you figures to convince you that it *is* a necessity on your own farm and will be an economy. Call on him and see the plant in operation.

Lalley Electro-Lighting Corporation
772 Bellevue Avenue Detroit, Mich.

LALLEY-LIGHT
THE ELECTRIC LIGHT AND POWER FOR EVERY FARM

We Must Work Together

There is much involved in the rendering of telephone service besides the furnishing of facilities. The human element at the central exchange and at each end of the wire are important factors.

The operator has fixed duties to perform, and the efficiency of the service which she renders depends largely upon the person calling and the person called.

Because of the tremendous war-use of all means of communication, and especially of the telephone lines, it is highly important that all telephone conversations be as brief as possible.

This is especially important on rural lines, which are necessarily "party lines." To hold a party line beyond a reasonable time may be preventing a neighbor from getting through a call of vital importance.

Speaking clearly and listening attentively will also tend to shorten the length of the conversation and aid the general service.

The co-operation of the public along these lines will assist us materially in our efforts to serve all satisfactorily.

The Mountain States Telephone and Telegraph Company

Making Sure of Your Hen Profits

HANDLING THE FLOCK AT A HIGH ALTITUDE

GORDON KENT, the Mountain Farmer

PEOPLE, passing my place, used to ask me whether there was any money in chickens "up here." Underlying their question was a conviction that poultry keeping is NOT profitable, and underlying my reply was the conviction that in some way hens could be made to pay under ANY conditions.

I now see the reasons for their skepticism.

The way they are usually managed, no, mismanaged, there is certainly no money in chickens. To begin with, most mountain flocks are all colors, types and sizes, except those found in the "Standard of Perfection." Then the hens are kept till they die of old age, or at least till death might be expected to be near. I know hens that are five and six years old. No attention is paid to the feeding, which means that they pick what they can in summer and live on whole corn in winter. No balanced ration or any such foolishness! Their quarters are a makeshift shed, or a log house with half the chinking gone. In either case the piercing cold wind is scarcely hindered, and snowdrifts form on bad nights inside the hen house. Unhappy birds. And when morning comes the sunbeams can scarcely penetrate the two small dusty panes of glass at which they would fain thaw their frozen combs and watties. Protracted misery and suffering, like Napoleon's retreat from Moscow.

Now a hen has a little sense.

No hen is going to hurt herself laying that has spent the winter under such conditions—dark, cold, crowded, unclean quarters, no variety of food and no opportunity for exercise.

Besides that, high altitudes do affect poultry, and no mistake about it. I once moved some hens from Denver, at five thousand feet, to an altitude of over eight thousand feet. The three-year olds died off the first summer, the two-year olds survived the first season, but died as they became three years old. All ages quit laying, and pretty nearly stayed quit. I had no success till I got baby chicks.

There are exceptional layers in all flocks, but the hen's best year is her first. In the spring, when the pullets are laying fifty per cent, the two-year olds are only laying thirty per cent. I found this out by keeping two-year olds in a separate pen.

And herein lies the guarantee of profits in hens in spite of altitude and a handicap of six to ten per cent freight charges on all the grain and meal you buy.

NEVER KEEP A HEN BEYOND HER PULLET YEAR.

Here is the system.

Each spring buy or hatch the number of baby chicks you need. For instance, to get one hundred pullets you will need at least two hundred and fifty chicks. One hundred and twenty-five or thereabouts will be pullets and you have a margin of twenty-five for losses and culls. Use a breed that will make good eating, besides laying well. I always use Barred Rocks. They are well-feathered and have small combs, so seldom suffer from frost-bite. But I do not insist that everybody else must use Barred Rocks, for I often reflect that a man of more sense would not do as I do.

Well, hatch your chicks in April and May. March is usually too hard a month in the mountains. Keep them thru one winter and one laying season. Kill them all off in the fall, say September. Put up your winter's supply in jars, and market the rest. Have everything cleaned up by October 10th.

Now your pullets will cost you up to a dollar and a half to raise and maintain during the laying season, possibly two dollars. They will bring about a dollar and a quarter, dressed. So your profit amounts to a little less than the total value of the eggs they lay. That is a clean, sure profit of two to four dollars a bird.

I am writing this early in October. The last hen of my flock went weeks ago. I have never had any trouble disposing of my hens, particularly as I could assure my customers that they were not old. I do not have to figure the expense of keeping a hen thru the winter, and wondering whether she will make me a profit or a loss, or break even. When you kill a seventeen-month old hen her carcass pays her bill. Her eggs are clear. When you kill a thirty-month old hen it has taken most of her eggs to pay her bill, and her carcass only is your profit.

Her first year is her best year. Keep her no longer.

A Tender Conscience

Frances and Agatha had been very carefully reared. Especially had they been taught that in no circumstances must they tell a lie—not even a "white lie."

One day, during a visit made by these little girls to an aunt in the country, they met a large cow in a field they were crossing. Much frightened, the youngsters stopped, not knowing what to do. Finally Frances said:

"Let's go right on, Agatha, and pretend that we are not afraid of it."

But Agatha's conscience was not slumbering. "Wouldn't that be deceiving the cow?" she objected.—Harper's Magazine.

General Pershing to American Farmers

This message of appreciation from General Pershing to American farmers was received by Carl Vrooman, Assistant Secretary of Agriculture, who is now in France with a committee of American agricultural representatives:

American Expeditionary Forces
Office of the Commander-in Chief, France.

Honorable Carl Vrooman,
Assistant Secretary of Agriculture

Dear Mr. Vrooman:

Will you please convey to farmers of America our profound appreciation of their patriotic services to the country and to the allied armies in the field? They have furnished their full quota of fighting men; they have bought largely of Liberty bonds; and they have increased their production of food crops both last year and this by over a thousand million bushels above normal production. Food is of vital military necessity for us and for our allies, and from the day of our entry into the war, America's armies of food producers have rendered invaluable service to the allied cause by supporting the soldiers at the front thru their devoted and splendidly successful work in the fields and furrows at home.

Very sincerely,
JOHN J. PERSHING.

For Style, Fit and Wear buy Mayer HONORBILT SHOES For all the Family

Ask your dealer for Mayer Shoes. Look for the trade-mark on the sole.

F. Mayer Boot & Shoe Co. Milwaukee, Wis.

MILWAUKEE Mayer TRADE MARK CUSTOM MADE HONORBILT

SATISFIED USERS wrote this Ad for Us—

Their Experience is worth real Money to YOU!

I have owned three spreaders in my time. The first two I didn't think much of. Then I got one of yours and now I am more than pleased with the spreader proposition. I find by hauling manure in the winter time on clover sod and letting the rains leach it down before plowing it under will oftimes double the corn yield or even wheat. Where I used commercial fertilizer and barnyard manure together on 12 acres of wheat last year I got 600 bushels of wheat, an average of 50 bushels per acre. A farmer that owns ten acres can't afford to be without a spreader.

WILL HENSIL, Ohio.

I have had several spreaders on my farm, but there are none like yours. I could not farm without it. Last fall I put six acres to wheat, first putting on 30 loads of manure. This spring I put on 20 loads more. You just ought to see that wheat. The manure made it stool out very good, and it will give 35 bushels per acre. If I had not used the Spreader this spring I am sure I would not have gotten over 15 bushels. Your spreader is one of the best investments you can put on the farm.

C. E. HUPRICH, Ohio.

I would not be without your Spreader, because it saves so much labor, puts the manure on the ground evenly, and I can spread any kind of straw or cornstalks. I believe my spreader will pay for itself in two seasons. With the proper use of manure on my place and using lime, I have increased the yield of my farm 25% in six years.

E. M. PHILLIPPE, Virginia.

Have been using your spreader on two different farms for a year and find them lightest in draft of any I have ever used. Two horses will pull them anywhere when the ground is not too soft. The straw attachment is ideal for top dressing wheat ground or any kind of small grain. It gets rid of a great deal of straw which goes to waste and this alone will pay for the spreader in a year's time.

J. D. BLACKWELL, Sec'y.
Missouri Angus Assoc.

THESE letters answer every question you may have about the Nisco Spreader. We will gladly send you the writers' addresses and copies of similar letters from many others, if you want further proof. These letters, like the Nisco itself, stand every test. They prove that you yourself should have a

NISCO Reg. U. S. Pat. Off. The "New Idea"

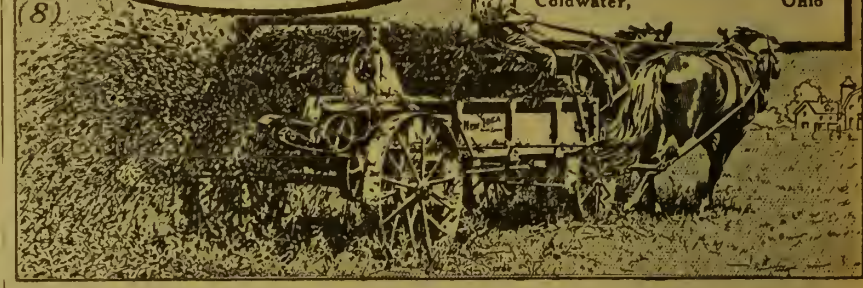
THE ORIGINAL wide spreading spreader that revolutionized old-fashioned methods—that has always been the leader. Has solid bottom with chain conveyors. Pulverizes thoroughly and spreads evenly. Drives with heavy sprockets and chain—no gears. Low down, light draft. Loads and pulls without undue strain on man or team.

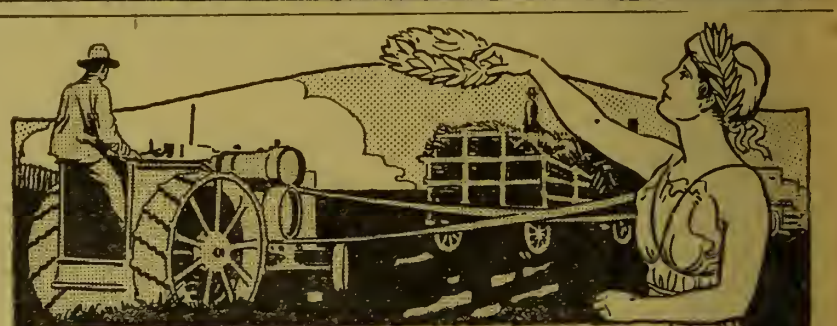
When you buy insist on the "Nisco"—the machine you are sure of. If you don't know our dealer, we'll send you his name and a copy of a splendid book on soil fertility. Send your name today.

New Idea Spreader Co.
Spreader Specialists
Coldwater, Ohio

"NISCO" One-Man Straw Spreader Attachment.

(8)





THE BILLION BUSHEL VICTORY

will be won by you—the American farmer. Your tractor, working tirelessly, rapidly, makes it possible to feed entire armies. But reliable tractor service demands reliable lubrication—an oil made for the purpose.

STANOLIND
Gas Engine Tractor Oil

is specified by the largest makers of kerosene burning tractors. It maintains its lubricating qualities under the intense heat developed, keeps compression tight, lessens carbon trouble in valves and cylinders—keeps tractors fit for their heavy work.

Keep the crank case charged with Stanolind Gas Engine Tractor Oil and your engine will give you a bigger share in winning the war.

Buy from your dealer or direct from the producer.

THE CONTINENTAL OIL COMPANY
(A Colorado Corporation)
Denver Pueblo Butte Boise
Albuquerque Salt Lake City Cheyenne

Trapped

(Continued from Page 6)

playing solitaire or reading in the meantime. But it was not till the third evening that their vigil was rewarded.

It was a foggy night. The wind had swung into the east at dusk, and from the North Atlantic had swept in a great, white bank of mist. It had shrouded the islands across the bay, obscured the blue waters of the bay itself, and at length cloaked the cottages along the Barbette in a damp shroud which left the drops of moisture clinging to everything it touched.

Hobart went to find Lieutenant Morse after supper. "This is a good night for—them," he said quietly.

The officer assented. "Yes, yes; we must keep our eye on him tonight." He donned boots and oilskins, and he and Hobart climbed the hill, and from the fringing alders began their watch on Eben's cottage.

Eben had drawn his blinds, but the light within shone faintly thru them. Lieutenant Morse went forward to the slit in the wall, and for half an hour watched fruitlessly. Then Hobart took his turn.

At a little after eight o'clock, he saw Eben lay down the book he was reading. From the lame man's attitude, it was obvious that he was listening to some sound that came through the microphone. His face was intent, his eyes were puckered, and there was a light of triumph in them.

Hobart watched; Eben listened. And as the lame man listened, he drew toward him a bit of paper and a pencil. After a time Hobart saw him snatch up this pencil and begin to write slowly. Hobart watched. For ten minutes Eben wrote; then his pencil became still. He listened, there was apparently no further sound, for he laid the ear-pieces aside and drew from his pocket a small note-book.

Consulting a page of this book he referred to what he had written, and wrote a word at a time. Hobart would have given his right hand for a glimpse of what the lame man was writing; but from his chink in the wall he could not hope to see.

When Eben finished, however, the lame man leaped from his chair and to the door so quickly that Hobart was startled; and he opened the door and ran out and down the hill.

At the lame man's first movement, Hobart had crouched in the shadows; but when Eben had disappeared, he whistled softly, and heard the answering whistle of the officer, and knew that Morse was following Eben. Cautiously then, he crawled around the little cottage and in through the door.

For Eben had left upon the table the bit of paper on which he had been writing.

Hobart crept into the cottage and to this table. He lifted the sheet of paper and held it near the lamp, studying what Eben had written.

Across the paper ran two rows of dots, arranged in groups and singly. There was a variation also in the length of the spaces between them. It was obvious that the arrangement was not haphazard; but Hobart wasted no time in studying the dots; for Eben had written words beneath them. Obviously the lame man knew the code the dots represented and had begun the translation of the message they conveyed.

Under the dots, Eben had written:

"Report at once, full data—"

The words broke off abruptly. Hobart could only guess at the rest of the message; but what he read bore a single and obvious meaning in his eyes. Eben had received orders to report at once to some superior; he had set out to do so. Hobart slipped out of the cottage and hurried toward the beach.

He came to the breakwater, and found, as he expected, that Eben's canoe was gone. There was no sign of Lieutenant Morse. The tide was out, and Hobart went quietly down the gravel toward low water.

Half-way there the lieutenant confronted him suddenly, a black figure against the white curtain of the fog. Hobart whispered: "Where is he?"

"Gone—in the canoe."

"Which way?"

"Northeast."

"The monument!" Hobart cried. "Hurry! We'll follow him!"

He ran up the beach to where the Peanut lay, and he and Morse hurried it down to the water. Both climbed in and they rowed cautiously to the mooring, changed from the Peanut to the large rowboat, and headed into the fog in the direction of the monument. Hobart was rowing, and he cast caution to the wind and gave all his efforts to speed.

An hour later the two men realized that they had hopelessly lost their bearings in the fog. The sound of the bell-buoy came from a great distance, and dimly. They could not be sure of the direction, and they could not seem to draw any nearer to the clanking bell.

Even Hobart gave up in the end. He swore, "Nothing to do but wait till morning," he said. "Wait till the fog lifts."

"If I'd only brought my compass," the officer groaned; and Hobart nodded grimly.

"Next time we will," he said.

They were cold, for all their oilskins; but after a time they dozed, then slept in the drifting boat. A sudden lurch of the little craft waked Hobart. He scrambled to his knees.

A slim, dark shadow of a ship was vanishing in the fog; a long, narrow craft with a low deck and a high conning tower amidship. "A submarine!" he whispered, caught the officer's arm and shook him into wakefulness, pointing. Morse saw only a disappearing glimpse of the submarine's stern in the fog.

"Her bow wave waked me," Hobart whispered.

"Did they see us?"

"I don't think so."

"If they did, they'll come back hunting us. Remember that fisherman."

Hobart whirled and caught the oars, began to row desperately, blindly.

After a time he grew tired; they listened and heard no sound. Hours later, dawn turned the mist from black to gray; and presently the fog lifted altogether. They found themselves drifting down with the last force of the ebb, and four miles below the Barbette. When they reached the mooring again, Eben Scour's canoe lay on the breakwater and Eben was talking to Bill Marks on Bill's beach.

When Hobart ran from Eben's cottage the night before, he had stuffed into his pocket the slip of paper containing that code message; and after breakfast that day he went with it to Lieutenant Morse's cottage and showed it to the officer.

"Why, we can decode that—with those five words to go by," Morse cried.

"I thought so," Hobart assented. "You—know that sort of work. Go ahead."

The lieutenant took the bit of paper and set to work. To each grouping of dots, he assigned the letter indicated in Eben's translation; and then he applied these letters to the similar groups of dots in the rest of the message.

The words Eben had written furnished twelve letters, including four vowels. "They ought to be plenty," Morse muttered. "But—they don't make sense."

"Let's see," said Hobart, and examined what Morse had written. There were seven letters used in the remainder of the message which they could not identify; there seemed no possible combination of letters which would make words.

It was Hobart who got the key at last. "The message must be in German," he cried. "Eben probably translated from German as he set down the words we have. Do you know German?"

"Surely," Morse exclaimed. "Let me see. The German words for—"

He fell silent, working. Hobart watched.

Presently the officer lifted his hand triumphantly. "Have it," he exclaimed. "Wait a minute."

He wrote, passed what he had written to Hobart. Hobart read:

Report at once, full data projected embarkation of troops, to commander of U-203. HOFF.

"The digits in the number are spelled out," Morse explained. "There's a little more. Wait."

He finished the translation swiftly, flushing with anger. "What is it?" Hobart asked. Morse showed him the paper on which he had written:

"Thank Morse for his indiscretion."

Hobart laughed. "You see—you gave the game away," he taunted.

Morse was pallid and trembling. "What are we going to do?"

"Do?" Hobart echoed. "We'll—"

Someone called "Good morning." They turned and saw Mrs. Marshall in the doorway. "May I come in?"

Lieutenant Morse rose eagerly to admit her. "I'll call Mrs. Morse," he cried. "She will—"

"Don't trouble," urged Mrs. Marshall swiftly. "Listen." She looked from one young man to the other, keenly. "Do you know, I believe there is someone here at the Barbette who is in touch with the Germans."

Hobart glanced at Lieutenant Morse. "Why?" he asked softly.

"Intuition," Mrs. Marshall declared. "You know I'm—almost foolishly patriotic. And I—seem to have a feeling that there is great danger to our country in someone who is—hiding here."

"Hiding?"

"Living here, then!"

"Who do you suspect?" Hobart asked.

Mrs. Marshall hesitated. "No one—definitely."

Lieutenant Morse leaned toward her. "Don't you—really?" he urged. "Mr. Hobart and I have had the same idea. Perhaps you agree with us."

"There!" Mrs. Marshall exclaimed. "I knew it. You think—it is—"

"Eben Scour," Hobart told her.

"Exactly," the woman exulted; then penitently: "I ought not to dislike that young man. Perhaps it is his—infirmity that repels me. But I cannot bear the sight of him. I hate him—and I'm afraid of him." She leaned toward them. "What have you found out?"

"He received a message from a German submarine last night. We have the message."

The woman turned pale. "Oh—that is too terrible." She rubbed her hands up her cheeks. "What are you going to do?"

"Watch him," said Lieutenant Morse.

"Oh!" Her voice was full of dismay. "Oh, I shall die of fright if he is—allowed to go free. You must arrest him—seize him—put him where he can do no more harm."

The lieutenant hesitated. "You really think so?"

Hobart clapped his hand on the table. "Absolutely," he cried. "She is right. It is time. The only safe thing to do."

Mrs. Marshall rose. She was trembling. "Really, Mr. Hobart," she said. "I hate to seem—merciless. But I'm afraid of the man. You two take a great responsibility—a great responsibility—in leaving him at large."

She hesitated, turned toward the door. "But—don't let me influence you against your best judgment," she urged, and disappeared.

Hobart rose. "I think she is right."

"Let's think it over—the rest of the day," Lieutenant Morse argued. "Tonight is the best time to—seize him, anyway."

Hobart nodded. "All right. But—I shall keep an eye on the man."

That was not hard. Eben seemed to have no secrets that day. In the afternoon he and Anne Marshall challenged Hobart to a round of tennis; and when Bill Marks refused to join them, the three played pivot, each in turn opposing the other two. Scour was at his best. He and Anne beat Hobart; he and Hobart beat Anne; and he beat the other two. They shifted to singles and he won again, every set. Hobart fought with a determination to vanquish the lame man; but he failed. Scour was uncanny.

As dusk fell, Hobart sought Morse. "I'm going to—arrest him," he said decisively. "Are you with me—or not."

"I—suppose it is the best way," Morse agreed.

"Then we'll do it. Have you a pistol? The little devil may fight."

"I'll get one," Morse promised. "Wait for me."

(Turn to Page 15)

Key to Plan View

1—One-Piece Main Frame—Holds all shafts, bearings and gears in proper alignment.

2—Motor Set Crosswise—Eliminates bevel gears, worm friction or chain drive.

3—Hyatt Roller Bearings at all important places.

4.—Cut Steel Gearing in transmission.

5—All Cut Steel Gearing between crank shaft and gear box.

6—All Cut Steel Helical Timing Gears.

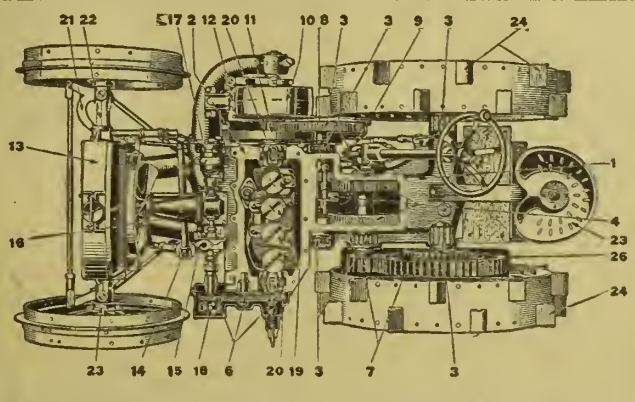
7—Forged Cut Steel Master Gear and Bull Pinion with differential (fully enclosed).

8—Oil-Tight Housing for all gears between crank shaft and transmission.

9—Worm and Sector Steering Gear, enclosed.

10—Clutch Pulley on crank shaft.

11—Fly Wheel—Next to main bearing (normal speed 1050 R. P. M.)



Key to Plan View

12—Brake for belt or road work.

13—Cast Frame, 5-piece, Army truck type, non-clogging Radiator.

14—Sylphon Thermostat.

15—Centrifugal Pump.

16—Spiral Gear-Driven Fan; gears enclosed.

17—Dust Proof High Tension Magneto.

18—Speed Governor, enclosed.

19—Pistons—Diameter 3¾ in. Stroke 5 in.

20—Main Crank Bearings, 2⅝ x 4½.

21—Steel Steering Knuckles.

22—Drop Forged Front Axle.

23—Dust Proof Hubs.

24—Detachable Tire Lugs—other styles furnished if ordered.

25—Spring Seat.

26—Dust Proof Housing for final drive.

Study This Chassis

of the Case 10-18 Kerosene Tractor

ABOVE we show a plan view of the Case 10-18, with an explanation of the details. Study this chassis—note its features.

In many ways, you will find the Case 10-18 far in advance of today's usual offerings. For instance, it is the first to offer a one-piece main frame with a four-cylinder motor, mounted cross-wise. This is merely one of the dozens of betterments. The one-piece frame casting constitutes a dust-proof housing for the rear axle, bull pinion shaft, transmission and the bearings for these parts.

This type of construction brings rigidity, reducing vibration, preventing disalignment. Power is conserved, while we multiply strength.

The belt pulley is mounted on engine crank shaft, doing away with bevel gears. It is part of the tractor—not an extra-cost accessory.

The Case Sylphon Thermostat insures complete combustion of gasoline or kerosene, and prevents raw fuel from passing by the pistons and diluting oil in the crank case.

The Radiator has a cast frame. The Core is copper—fin and tube non-clogging type.

A Case air-washer prevents grit or dust from getting into the cylinders.

These are but a few of the greatest advancements in tractor history. Case offers you today, NOW, what others will attempt later on.

The Case 10-18 is rated according to the conservative Case policy.

It develops nearly 14 horsepower on the drawbar and about 24 horsepower on the pulley. Thus we insure abundant reserve power.

Our booklet and specifications point out dozens of other advancements, all of which demand your consideration before you buy.

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(810)

Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Discharge from Uterus

Ans. to W. D., Gunnison County, Colo.: In answer to your question about the cow: The constant discharge may indicate that a rupture has occurred, either at the time of calving, or later when again served by the bull. The time since service has been too short for determination by an external test whether the cow is in calf or not, and we would advise that you consule a veterinarian and have a careful examination made. The heavy discharge indicates a condition that should be looked after at once. If the discharge is a plain case of leucorrhea or whites it is not likely that the cow conceived. If she did an abortion is very apt to occur. Treatment recommended for leucorrhea is as follows: Feed on soft, nutritious diet with tonics and stimulants. Give twice daily two ounces of the following, diluted with water:

Aromatic spirits of Ammonia, 4 oz...
Sweet spirits of niter, 5 oz.
Tincture ginger, 5 oz.
Tincture muriate of iron, 2 oz.
Strychnia, 2 grains.

As an injection into the vagina twice daily, the following powders, dissolved in a quart of warm water, will help to stop the discharges:

Permanganate of potash, 1 oz.
Sulphate of zinc, 4 drams.
Mix.

Make this into eight powders. Wash out the womb and vagina to remove all accumulated matter before administering the powders.

Want Corners Established

There are two townships in Yuma county which have not been surveyed. Two petitions, one for each township, have been presented to the county commissioners, but the surveys have not been made. How can we have survey made. We are homesteaders and we do not feel able to hire a lawyer. We would like to have our corners established.—C. L. G., Yuma County, Colo.

About the only remedy is to have your own survey made with others who are interested, or to bring an action under the code. Better consult legal counsel in order to be sure what is best to do.—HAMLET J. BARRY, Attorney, 724 Equitable Bldg., Denver, Colo.

Pasturing Sudan Grass

Is second growth Sudan grass poisonous the same as cane I want to turn my milk cows in on the field if it is harmless.—R. J. S., Wyo.

Yes, Sudan grass is a sorghum and it is dangerous to pasture the second growth, which is very apt to develop Prussic acid and cause the death of stock eating it.

Brood Sow In Bad Condition

I wish to call on your Service Bureau for a little advice in regard to a fine two-year-old brood sow. She was all right until I bred her on June 4. Three weeks after weaning her pigs I noticed that she would often stop to vomit when she was eating, but I thought she would come out all right if I did not overfeed, but she kept getting worse until six weeks ago I stopped giving her any green feed, and gave her dry mixture of bran, alfalfa leaves, oats and a litte flaxseed, meal etc., then would give a drink of milk and water. She has always had salt, charcoal, or fine coal, sulphur and most anything around a farm that would be good for a hog. She farrowed September 28, with 14 pigs, and they are doing well—eight of them—she killed six, but she gets no better and have cut out the alfalfa leaves to save chewing. Give her an apple, beet leaf, or anything fresh or green and she will go to vomiting at once. I put a little hyposulphate of soda in her feed for a while but it did no good. She was fed a little too high a year ago for breeding and got pretty fat, but she has always had a good appetite and ready for a feed. She is my best O. I. C. sow, and a better one than I have ever seen in the West, so am anxious to help her.—H. H. McI., Salt Lake, Utah.

From your description of the case I judge the sow has an ulceration of the stomach, which in hogs is not easily cured. Should there be a skilled surgeon in your community an operation might be done which would give relief, but this should not be attempted even by the ordinary veterinarian. Any food containing acid is highly undesirable. Medicinal treatment is not likely to be of value. An occasional addition of sodium bicarbonate will be found helpful. The diet, however, is the important consideration here and should be looked after most scrupulously.—D. E. NEWSON, Veterinary Dept., Colorado Agricultural College.

Contract With Business College

About one year ago the traveling agent for a business college induced me to send my daughter there on these terms: Some $50 for books, paper, etc. Cash was paid. My daughter while there contracted measles, but did not improve properly, and the doctor sent her home. Shortly after she got home she contracted other diseases. She was under the doctor's care about all summer and is looked after by him now. He forbade us sendnig her to the college again this fall. The point is this: I gave them a note of over $200 for her tuition on these terms, as per their agent. This was not to be paid until she was thru with the school and had a paying position. A certain per cent of this salary was to be applied on the note until paid. And in connection with this, if she got sick, and was not able to attend school the proper part of this note was to be refunded. She attended school there about one month, I am willing to pay her tuition for that time. I notified one of their managers of the agreement I had with their agent, but he refused to make it right. Can they collect the entire note or only for the time she attended school? Is the contract with their agent binding.—C. E. D., Yuma County, Colo.

If there is a written contract it controls no matter what the agent said about the contract. If the note was given and delivered without conditions expressed in the note itself the note would be good against all defenses in the hands of an innocent purchaser. It is quite usual for these notes to appear when it comes time to sue in the hands of innocent purchasers. I am in no position to answer this query any further without inspecting the contract.—HAMLET J. BARRY, Attorney, 724 Equitable Bldg., Denver, Colo.

Validity of Warranty Deed

Is a warranty deed made out by a notary public, but without other witnesses, good in the state of Colorado, and would it hold good in court If a married man signs warranty deed of his land in Colorado without his wife's consent or signature would it hold good in court? This land had been deeded before this man's marriage, a few months ago, and don't believe it had been changed in any way since until he gave warranty deed to same.—T. F., Colorado.

Yes. Witnesses are not required in Colorado.

Yes. Unless the land was homesteaded on the margin of the record, in which case both husband and wife must join. The property, however, must be the home.—HAMLET J. BARRY, Attorney, 724 Euitable Bldg., Denver, Colo.

Millet a Fair Hog Feed

Ans. to J. E. Z., Weld County, Colo.

Millet seed makes a fair feed for hogs but is not the equal of either corn or barley as a flesh producer. It should never be fed alone. It can be fed to hogs profitably by using about two-thirds millet and one-third of corn or barley. It is well to feed it in connection with some concentrate rich in protein, such as alfalfa or perhaps linseed meal. To get the full benefits it should be ground before feeding.

Poison in Frozen Cane

Ans. to C. R. A., Morgan County, Colo.: Yes, second growth cane will poison cattle if used as pasture. This is especially true where the cane has been subjected to a freeze. This brings out the prussic acid which is a deadly poison and is almost always present in the second growth.

Cattle Destroy Food Crops

Ans. to G. B., El Paso County, Colo.: We have mailed copy of the law which defines a legal fence for the State of Colorado. If you have a fence which comes under one or the other of the various descriptions herein given you can recover for damage caused by cattle breaking into your crops. At the last session of the legislature the fence law was amended, the important added provision being that stock is not allowed to run at large in any road or lane which is fenced on both sides by a lawful fence. This does not prevent driving stock thru a road or lane, but is intended to stop grazing in the roads. In addition to such protection as the state law provides we now have food administration regulations that should be of benefit to farmers in case of crop destruction by range cattle. If you have suffered we would suggest that you make complaint to your county food administrator at Colorado Springs. If the county administrator is unable to help you in the matter lay your complaint before Mr. T. B. Stearns, state food administrator at Denver. The destruction of food crops under present war conditions is a serious offense and parties responsible therefor should be made to pay the damage.

THE Moline Wide Spread Spreader helps you to get 100% profit from your live stock. It enables you to make the best of your barnyard manure, keep up the fertility of your land and increase crops.

It is strongly built and equipped with the best mechanical devices for spreading manure in the most modern and practical way. It is a low down, endless apron, wide spread spreader and is correctly built for long life, easy loading, quick and perfect work. The Moline Wide Spread Spreader is the result of many years' experience in building manure spreaders.

The manure is subjected to a second handling by the rear beater, which pulverizes it much better than a single beater can possibly do, at the same time spreads the manure in a wide sheet instead of leaving it in streaks.

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Hereafter the regular price of this vaccine will be 40 cents per dose.

To those who are not familiar with our product, and to show that we have every confidence in our vaccine, we will give a written guarantee that it will save every calf from blackleg. The price with this written guarantee is 50 cents per dose.

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The price of sugar in Petrograd during July, 1918, ranged from $3.31 to $3.55 per pound, according to information lately secured by the Food Administration thru sources considered reliable. Sugar prices were approximately three times as great as butter prices.

According to German estimates, the use of all drying apparatus in that country would dehydrate about 184,000,000 bushels of potatoes. The German potato harvest, which this year is fairly satisfactory, constitutes one of the principal food resources.

Trapped

(Continued from Page 13)

"And I'll get my own," Hobart told him. "Meet me here in ten minutes."

Morse was back in less than that time; and the two consulted for a moment, and then started up the hill together.

It had been a foggy day and it was raining now, and black as a well. The two drew instinctively together as they climbed toward Eben's cottage; and outside the little structure they halted, whispering.

Eben was inside. His blinds were not drawn, and they could see him sitting by the table. He had laid aside his coat and was writing. Hobart stepped forward.

"You go in first," he whispered. "He'll be on his guard if he sees me. Grab him, and I'll run in."

Lieutenant Morse noded, knocked. Eben called: "Come in." The lieutenant pushed open the door and entered, leaving the door ajar behind him.

"Thought I'd come up and say 'Hello,'" he said uneasily.

Eben rose. "Glad to see you," he told the officer cordially and as Morse moved toward him. Eben came around the table, keeping it between them as though accidentally. He approached the open door. "I'll shut this," he said. "It's a bad night."

As he grasped the knob, the lieutenant took a swift step toward him from behind. At the same time, Hobart appeared in the doorway, his weapon in his hand. "Hands up," he snapped.

Scour heard Morse's leap behind him. He threw himself down and backward; his shoulders struck Morse's knees and the lieutenant fell forward over the little man. Hobart dared not shoot. Something struck the table; and the lamp fell and was extinguished. Hobart shouted:

"Come out, Morse. He can't get away."

Morse was scrambling on the floor in the darkness. "I've got his leg," he panted. Hobart stepped in through the doorway.

Eben, striving to escape from Morse, saw Hobart framed in the door. He wrenched his leg free, whirled; his heel rose in a circling swing and caught Hobart's jaw with the smacking impact of a shingle upon a board. Hobart grunted and collapsed like a rag. Scour leaped over him, out the door. Morse's weapon flashed in the night.

Eben ran swiftly down the hill toward the beach. Morse ten yards behind and firing as he pursued. Eben drew away from him, dropped from the breakwater to gravelly beach, raced on. Morse shouted:

"Halt!" His last cartridge was expended uselessly.

Eben reached the water; he plunged in. He dove and was lost to sight. Morse ran up and down the brink of the water, watching for Scour's head to reappear.

But he saw no more of the lame man.

CHAPTER XII.
THE MONUMENT

When Eben reached the water's edge, in his flight before Lieutenant Morse, he plunged in till the water rose to his waist, then dove. Under water, he turned sharply and swam a dozen strokes to his right, then turned in-shore and rose in the shelter of a rock where the seaweed hung thick. He drew the heavy strands about his head and remained half submerged and securely hidden until Morse gave up his search and departed.

Eben was of two minds what next to do. He might return to his cottage, confront the two, defy them. He felt he could rely upon the support of Marks and John Benton at least; but in the end he discarded this plan with a grin.

"If I simply disappear, it will perplex them most," he decided and acted forthwith on that decision. He lifted a rock from the bottom beneath him, stripped off his shoes, socks and shirt, made a bundle of these things with a rock in the middle, swam out fifty feet and released them. They sank immediately. Instead of returning then to the shore, Eben swam on. The water was warm, and there was no chop to it. Eben fell into the side stroke and headed straight out into the bay.

His destination was the monument, where the bug-light flashed. The monument was about a mile and a quarter from the Barbette, but at this stage of the tide, he would catch a current that would carry him that way. Eben was a strong swimmer, and he loved it; and he fell into a slow stroke that sent him steadily forward, while the gentle flow of the water past his body, and the strong and vigorous taste of the salt in his mouth soothed and strengthened him. He smiled as he swam; and his thoughts were concerned with many things.

The night was still, and the rain that beat now and then upon the water pelted Eben's head pleasantly. The mist and fog shifted and lifted and descended; and through the fog came the notes of the bell on the bell-buoy, serving as a guide to Eben's keen ear. Some instinct also kept him on his proper way; and he felt after a time the pressure of the current against his right side and swung to swim with it behind him.

He went lazily, unhurrying, the swing of his legs driving him ahead at a steady six feet to a stroke; and once his head bumped something, and he lifted and found he had collided with a gnarled stump, adrift upon the waters. He grinned and spoke to it.

"Evening stranger," he said softly. "Lost your way?" The stump bobbed and rolled in the current. "Good luck, old scout, and may the fire never get you," Eben called as he left it behind him.

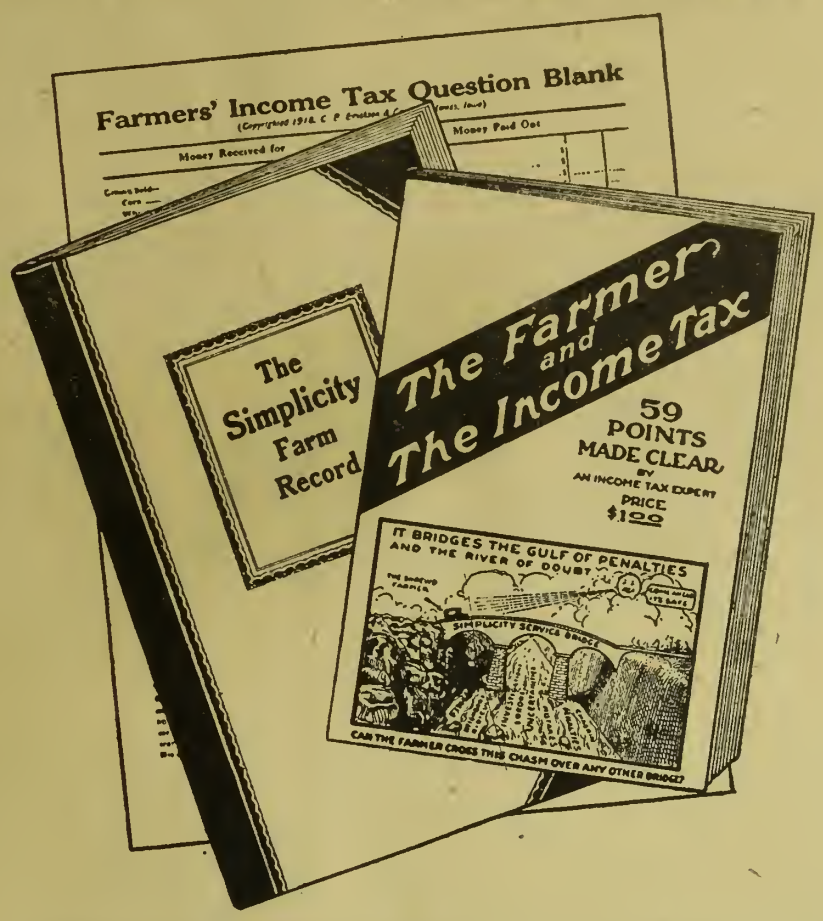
Ten minutes later he caught the diffused glow of the bug-light through the fog ahead of him, and corrected his course to head straight for it. Another ten minutes and the monument reared itself from the water before him.

Great blocks of stone were set togeth-

(Turn to Page 19)

You Must Make Income Report

YOU ARE NOT EXEMPT



Ignorance of the law excuses no one.

Laws are made to be obeyed, and for those who do not willingly comply, a penalty is imposed.

A majority of farmers and stockmen are subject to this tax this year, and there is no use in trying to dodge it, for each one will be checked up some day.

Government tax is as sure as fate.

Because a farmer did not keep any books or did not make out a return as required by law, does not mean that the Government cannot check him up. If the Revenue Officer decides that he wants to know what you made, he will find out regardless of the expense or effort he is put to.

Penalties ranging from 50 to 100 per cent increase in taxes, and also heavy fines may be imposed for neglecting to file your report. If you have no written record of your transactions you will have to make up one from memory. This means uncertainty, and probably financial loss. The only sure way is to have it all down in "black and white."

SIMPLICITY INCOME TAX SERVICE PROTECTS YOU

Because with these Farm Record Books you are absolutely sure where you stand. There is no guess-work, and therefore no loss. You pay your just share of the Income Tax, and NO MORE. It makes it easy for the Farmer or Stockman who has not had time to learn the science of bookkeeping, and it surely is a short cut for the one who has.

Simplicity Income Tax Service is made up of "The Simplicity Farm Record," "The Farmer and the Income Tax," and the "Tax Question Blank."

"The Simplicity Farm Record" is a 6x9 inch, 68 page record book. There is a place to put down every kind of transaction you would make on the farm or ranch, together with instructions just how to do it. The book is so simple and the instructions so clear that you can keep the most accurate accounts, even tho you know nothing about bookkeeping. It will take only a few minutes to keep the Simplicity Farm Record absolutely correct. Then when Uncle Sam's revenue man comes around you can smile and show him your record book. Your work is all done—no trouble, no work, and no worry trying to remember and figure out just what you have done for the past year. Then, too, you can tell at the end of the year just how much money you have made for that year. By studying your record you can see where it is possible for you to save money, and also where you can increase your production. It is to your interest to get a Simplicity Farm Record Book.

"The Farmer and the Income Tax," or "59 Points Made Clear" is a 16page booklet that is worth its weight in gold to the Farmer or Stockman. It was written by Clayton B. Stiver, a recognized Tax Expert. Mr. Stiver has had more than fifteen years' experience in the service of the United States Treasury, having served in all departments of the Internal Revenue Bureau from storekeeper to Revenue Agent in charge. He has this year examined the statements and made out the returns for more than 3,500 farmers and stockmen. He gives you the benefit of his experience in this valuable little book. He has taken up the 59 points or questions which vitally affect every farmer and stockman, and explains how each is affected by the Income Tax Law. After reading this little book the workings of the Tax Law will be perfectly clear to you. If, however, there is any point about this law that is not quite clear to you, just write the Service Bureau of Western Farm Life, and your question will be answered promptly. There is no charge for this service.

"The Tax Question Blank" is a legal form which contains the questions that you will have to answer before you can make out your Tax Return correctly. By having all these questions made out beforehand, you will have no trouble at all in making out your report.

Uncle Sam says that you MUST make out a report and have it ready by MARCH 1, 1919. You don't want to spend a lot of time, and go to a lot of trouble and work in doing this. Therefore we have secured this Simplicity Income Tax Service for Western Farm Life readers. We believe it to be the best and shortest form that you can get.

IT IS FREE to subscribers of WESTERN FARM LIFE. You can get a full set of Simplicity Income Tax Service (the two books and the tax blank) by merely extending your subscription two years (two years $1.00).

SEND NO MONEY—Simply fill in the coupon at bottom of this page and mail. We will send you the full set of Simplicity Income Tax Service postage paid. Keep and examine it for ten days. If you are not satisfied with it, and do not think it is worth all we claim, just notify us and we will send you postage for its return and call the deal off. You will be out nothing. But if you deside to keep the Simplicity Income Tax Service we will enter your name for the extension and send you a statement of your subscription in the usual way. No extra charge.

Don't bother to write; simply mail the coupon and your set will be forwarded to you at once for free examination, all charges prepaid.

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If you do not want to renew your subscription, we will sell you a set for 25 cents. We were able to secure these Record Sets at an extremely low price by buying direct from the manufacturer in wholesale quantity lots. The Simplicity Income Tax Service retails at $1.00 per set.

WESTERN FARM LIFE, Denver, Colo.

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GEO. E. MORTON

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The Hog Market

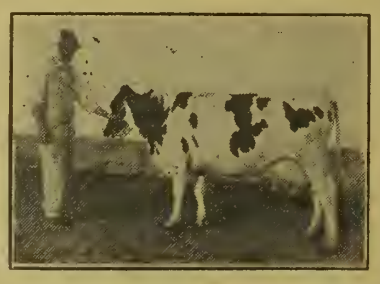
Hogs dropped off considerably in price during October. The Livestock Sub-Committee of the Agricultural Advisory Board had met with men representing the swine industry, the Food Administration and the packers, and decided upon an average price of $18.50 for average packers' droves on a Chicago basis. This later was changed to a minimum of $18 for average packers' droves. This price was not maintained either at Chicago or other markets, altho some firms, I believe, did succeed in paying the price agreed upon. It looked to producers as tho the packers had broken their agreement with the government.

The Food Administration has just sent out by wire, at the request of the conference on the pork and hog market, a statement which fully explains the difficulty. The peace talk, which has been indulged in during the last month, caused dealers in corn, and farmers having corn, to believe that with immediate peace a large amount of Argentine and South African corn would be dumped on the market. Consequently, corn declined rapidly in price. Swine growers became afraid that there would be a similar reduction in price of hogs because of the 13 to 1 guarantee of the Food Administration. They rushed their hogs to market in enormous numbers. The first three weeks in October saw the seven great markets of the country receive 27 per cent more hogs than last year. The actual increase in hogs in the country is only from 8 to 15 per cent, so that marketing was abnormally heavy. In addition to these heavy receipts, the epidemic of influenza reduced consumption of pork products.

Packers were called upon to receive far more hogs than usual; find a market for the product, altho there was a reduced consumption, and handle the rush of hogs with a labor staff reduced about 25 per cent by influenza. The result was a break in prices below the price agreed upon. The same group of men have met to agree upon a price for November, and the following undertaking has been given by the packers;

In view of the undertakings on the part of the Food Administration with regard to the co-ordinated purchases of pork products, covered in the attached, it is agreed that the packers participating in these orders will undertake not to purchase hogs for less than the following agreed minimums for the month of November, that is a daily minimum of $17.50 per hundred pounds on average of packers' droves excluding throwouts, throwouts to be defined as pigs under 130 pounds, stags, boars, thin sows and skips. Further, that no hogs of any kind shall be bought, except throwouts, at less than $16.50 per hundred pounds. The average of packers' droves to be construed as the average of the total sales in the market of all hogs for a given day, all the above to be based on Chicago. We agree that a committee shall be appointed by the Food Administration, check the daily operations in the various markets with a view to supervision and demonstration of the carrying out of the above. The ability of the packers to carry out this arrangement will depend on there being a normal marketing of hogs, based upon the proportionate increase over the receipts of last year. The increase in production appears to be a maximum of about fifteen per cent and we can handle such an increase. If the producers of hogs, should, as they have in the past few weeks, prematurely market hogs at such increasing numbers over the above it would be entirely beyond the ability of the packers to maintain these minimums, and therefore we must have the co-operation of the producer himself to maintain these results. It is a physical impossibility for the capacity of the packing houses to handle a similar overflood of hogs and to find a market for the output. The packers are anxious to co-operate with the producers in maintaining a stabilization of price and to see that producers receive a fair price for their products.

This agreement is self explanatory. The Food Administration and men representing the swine industry have agreed to meet from time to time to fix prices, as they have done for October and November, in order to hold up the market because there is an increased export demand and an enormous shortage in foreign countries, and they want pork held for distribution for a normal length of time for this trade. They feel that the 13 to 1 ratio in the face of a falling corn market would cause altogether too early marketing, because it would mean a falling pork market also. They are, therefore, trying to hold prices up to the figures which they name for each month, even tho it is higher than the 13 to 1 ratio would bring. How growers should not become panic stricken. A year ago 52,000,000 pounds of pork products were exported in October, this year 130,000,000 pounds were exported in October. Orders for the export trade for November amount to 170,000,000 this year, as against 98,000,000 last year. There is no large stock of hogs existing outside of the United States, and if peace should be declared, the supplies we have in prospect at present would probably be inadequate to meet the world demand. It should be held in mind that all the Food Administration can do is name the price for control of export orders. The packers, however, have agreed to hold the price for all hogs at this same level, provided the hogs come in in normal numbers. The price for November of $17.50 is for average packers' droves, excluding throwouts. Thin sows are cut in price, and boars in particular, are cut heavily, bringing less than half what a good, fat hog should bring. Growers should, therefore, put only barrows and fat sows on the market, if at all possible.—G. E. Morton.

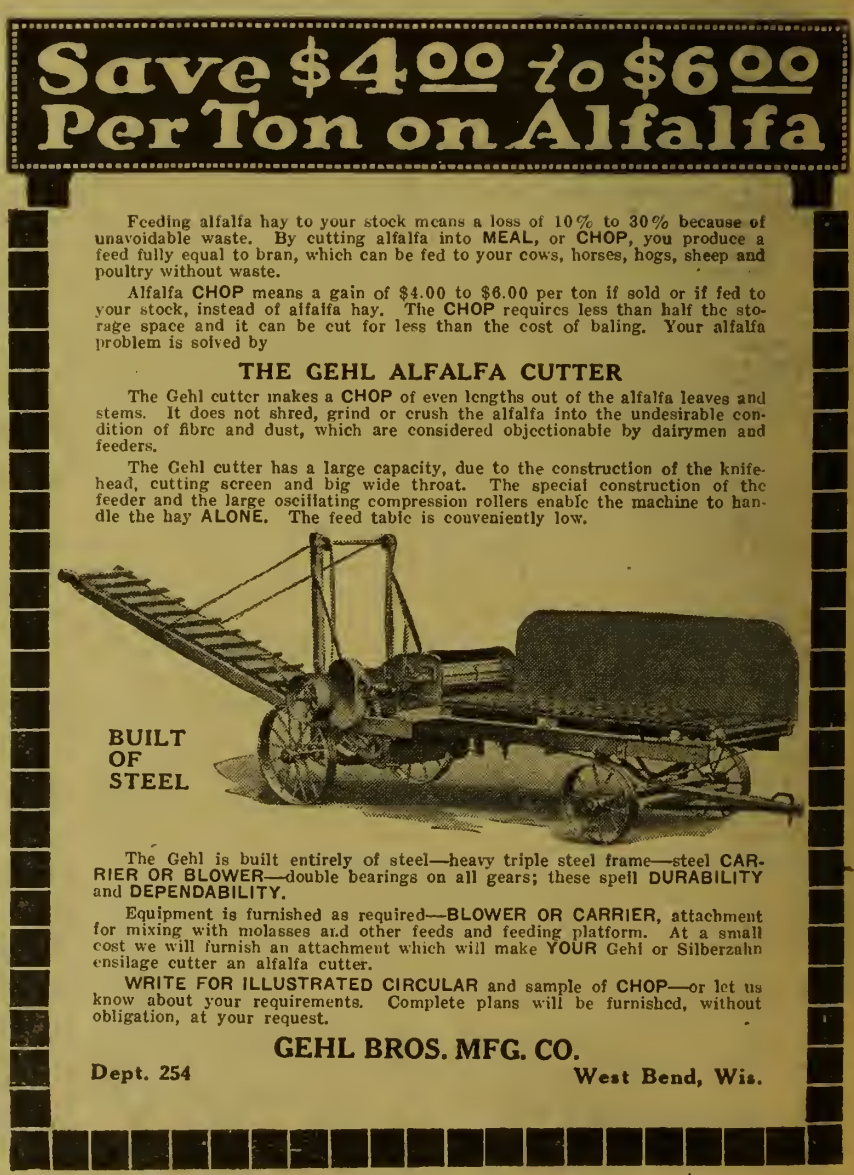


The Grand Champion Holstein

This is Woodcroft Empress Josephine, No. 120539, grand champion Holstein cow at the Colorado State Fair, 1918. This exceptional animal is owned by Fred Jensen, Rfd. 2, Pueblo, Colo., a dairy farmer and breeder who has been in the Holstein game many years. Mr. Jensen pulled down the grand championship this year against a strong field, which included the state's best herds and some of the handpicked individuals of these herds. The dairy cattle were judged by R. W. Clark of the Agricultural college, who picked the winner because she conformed perfectly to approved standards of the breed. Ownership or previous winnings had no part in influencing the judgment.

Because of the diminishing of the herds, Europe will face serious food shortages for years after peace is achieved.

Clean up the home pantry before calling on the national pantry.



Need Grain to Fatten

I have this last season put into my underground silo 50 tons of corn silage, the first ¾ chopped fine and the last ¼ put in whole as my machine broke down. Have also about eight tons of stover and some five tons of good wheat and oat straw and 60 acres of good alfalfa pasture on which only about six head of horses are now running. All of the corn and wheat stubble fields are now being cleaned up by my twelve head of cattle. Of these twelve, two are milk cows, four are milk stock cows, balance are steers and calves. These I will have to feed on silage and straw during the winter after the alfalfa gets too short. I have out on the range 100 head of wether lambs and 300 head of ewes, old and young, the 100 head of wether lambs I intend to have in November 15 and turn on the alfalfa pasture, feeding at night or silage. This should carry them till about December 15, then put them up and feed silage and straw until beginning of year and kill them to sell to local pasture, feeding at night or silage. This should in to the ranch about the same time as the wether lambs, November 15, but keep them on the hills around here in the day and feed a little silage at night. When too bad on winter days to get out on the hills feed straw as well as silage to them. In the spring turn them on the alfalfa pasture, lamb about middle of April or a little before. I have a good shed for the 100 head of wether lambs and will build some low sheds for the 300 head of ewes to keep in during the winter and to lamb in. Can I fatten the wether lambs that way? I have some 3,000 pounds of corn on the cob, but I shall need most of this for fattening the seven head of big pigs I now have and also to grow about nine head of young pigs on when they run on the alfalfa pasture I have for them next summer, but I can get more corn if necessary. Last year I ran fifty head of old ewes on the ranch during the winter. The ewes that lambed on the alfalfa pasture in April did well. They brought lambs from small bucks, but I lost a good many lambs that came in May after the ewes were off the alfalfa pasture but getting well fed. These brought lambs from a very big buck. The ewes were small and old. The lambs seemed to be large and well developed. I thought the ewes might have carried them too long on account of the lambs' size. Some around here tell me a small ewe can deliver lambs safely from a big buck so perhaps it is something else. Can you recommend me some books on sheep on the ranch showing ideas for sheds, feeding pens, racks for feeding straw, etc?—R. M., New Mexico.

Wether lambs will not fatten on alfalfa pasture and silage; they will grow and make good weight, but will not finish. If you can secure grain of any kind such as barley or oats or corn, you can feed it with your pasture and silage and finish the lambs. The trouble with your lambing from small ewes may have been the result of using too large a sire or a sire from a breed with very large heads. For example, if Hampshire rams are bred to small Merino ewes there is trouble in lambing because the resulting cross-bred lamb possesses the head character of the Hampshire in a very high degree. The head is large and coarse and there is resulting trouble in lambing. I do not think the good feeding had much to do with your difficulty in lambing. There is a new book out on sheep by Professor Coffey of the Univeristy of Illinois. It can be secured from J. B. Lippincott & Company, Philadelphia, Pa.. I have not seen this book yet so I do not know whether it contains plans. There is a book out by Joseph E. Wing, who used to be one of the editors of the Breeders' Gazette. The Breeders' Gazette also published a book on Farm Buildings, which gave some ideas on sheds. We are sending you a diagram of a sheep yard and plans for self-feeder.—G. E. M.

Fitting Cattle for Show

P. K. Heerwagen

The first thing in fitting cattle for show is to select your most likely animals that you think will make the most creditable showing. Put in a few extras so that if certain ones do not develop in fitting, you won't be left out, or, rather, you will not show animals that you yourself are disappointed in.

Cattle should be kept in a darkened barn during the day. The barn (preferably a double story, as it is cooler), with the windows covered with burlap, is the place for the cattle during the day. Open up the barn at night to let in the cool night air, then close and darken during the day to hold the barn at a cool temperature. Flies (the pest of the show herd) will not worry the cattle to such an extent in such a barn, as they prefer the warm and well-lighted places. The dark barn will hold a better color on the animals, a color of finish and bloom, and a color desired by the cattle judge.

Bedding.—The cattle should always have a soft clean bed. This will require a layer of straw about a foot deep. It should be kept clean; throw out all the manure at morning, noon and night, and each time shake up the straw to make a good soft bed.

Feeding.—The animals should be fed morning, noon and night a grain mixture, consisting mainly of oats and bran, with a little barley, corn, cottonseed meal and salt. The following mixture is suggested for the bulls:

1½ buckets barley,
1½ buckets rolled oats,
2 buckets bran,
1½ buckets corn chop (coarse)
½ bucket cottonseed meal,
2 handfuls salt.

For heifers use only three-quarter bushel of cracked corn with the same amount of the other feeds.

The feeds should be first mixed, then dampened with a mixture of water and molasses or sorghum. Just enough molasses should be added to the water to give the mixture a good flavor. The feed should be dampened so it will barely stick together when pressed into a ball with the hand. This wet feed should never be kept over or allowed to sour. It should always be fed soon after it has been dampened.

1. Oats, either rolled or ground, is one of our best feeds for growing or fitting livestock for sale or show. They are a builder of bone and muscle and they put that thick flesh on the cattle that is essential in the show ring.

2. The bran is also a bone builder and should make up at least the portion stated and a greater portion if it is obtainable.

3. Cracked corn should be fed lightly to show stock. It is fattening feed and when it is fed in large quantities, will leave a rough, soft, patchy finish. It is only desirable for the show herd in small amounts. It should always make up less of the grain mixture which is to be fed to the older heifers.

4. Cottonseed meal is a feed high in protein content, and furnishes a relatively cheap protein feed.

5. A small amount of salt should always be included in the mixture.

6. Wetting the feed and adding the molasses makes the mixture more palatable and adds a flavor that the cattle like.

Amount of Grain to Feed.—A twelve months' old calf in good growing condition can be finished in good show condition by feeding about a gallon of the above mixture three times a day. As the date for the show approaches the amount may be increased if the animal has not put on as much muscle and fat as is desired.

Animals of other ages may be fed in proportion to their weight and according to the flesh required to finish them in show condition.

Roughage.—Alfalfa, pea, or bean straw furnish very nourishing roughage, for they are feeds that contain relatively large amounts of nutrients. In feeding roughage, feed only what the animals will clean up. Do not let them stuff themselves on hay, for hay alone will not fit them for show. Roots and silage furnish a form of roughage, which are highly desirable, for they are palatable, keep the digestive system in fine shape, and improve the appearance of hide and hair.

Water should be given three times a day, preferably just before each feed.

Blanketing the cattle does two things. It protects the animals from flies and improves the hair by making it wavy, and the hide by making it mellow. The importance of blanketing, especially previous to showing, can readily be seen.

Keep the Cattle Clean.—All animals that have a dirty hide should be washed with warm water and soap. Make a good suds first in the water and then add more soap on the hair of the animal. Rub and work the hide until the dirt is worked loose and it and the suds will be washed off together. The clean hide will work up more pliable and will leave that desirable, glossy finish. A dirty animal will not stand long with a good judge.

Brushing the Animal.—The animals should be brushed at least a half hour each day. Brushing lengthwise with the body with pressure will work the hide free and pliable from the body and gradually remove the old hair. The final brushing should be in the direction of the hair, the hand each time following the brush. The hand will draw the oil from the skin to the extreme tip of the hair, helping to give it a bright glossy finish.

The Tail and Inside of the Ears Should be Clipped.—Begin clipping above the switch of the tail even with the point where the fullness of the twist begins to fall, and up to the tail head, gradually tapering the tail off at the top, so that it is not necessary to clip any hair off the back. One of the main objects of clipping the tail is to show the fullness of the twist and the beefiness of the hindquarter. One's own judgment can determine the extreme points that will show up these characteristics to the best advantage with each individual.

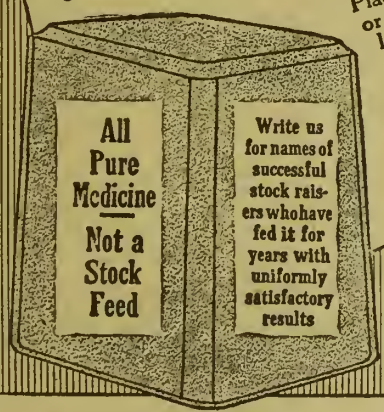
(Turn to Page 23)

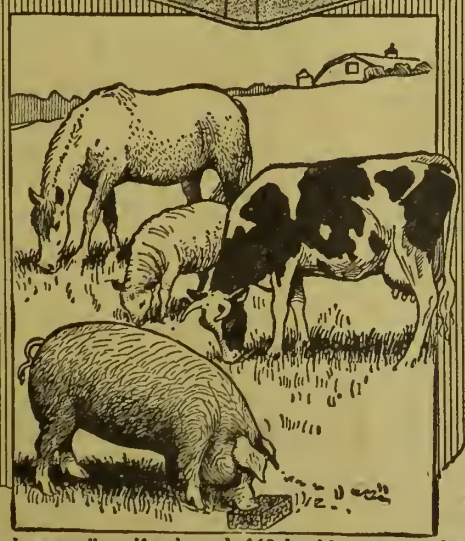
careyized STOCK TONIC BRICK BLOCK

Our Positive Guarantee of Satisfaction

We guarantee that Carey-ized Stock Tonic Brick or Block contains no harmful materials of any kind; that it is a scientifically correct combination of universally recognized health promoting mineral and vegetable medicines which all animals need, and that it will give you satisfactory results in a 60-day trial feed.

Place the 3-lb. Bricks or a 50-lb. Block Tonic in your feed boxes, feed-lot or pasture. Let your live stock have free access to it for 60 days. If, at the end of that time, your animals are not in better health than ever before—eat better, look better, act better—or if, for any reason you are not entirely satisfied with the result, return what is left of the tonic and get ALL YOUR MONEY BACK. We will pay carrying charges both ways.





Cut Down Chances of Live Stock Loss

Waiting till animals are sick before treating them, and failing to supply them with necessary mineral and other materials in which ordinary grain rations are deficient, is costing stock raisers millions of dollars annually—in unthriftiness and loss by disease.

Carey-ized Stock Tonic Brick or Block represents the sure, economical, trouble-proof way of preserving animal health and getting the most for your feed money from hogs, cattle, sheep and horses. It is "the ounce of prevention"—supplies animals regularly with tonics, minerals and vegetable medicines which they need and crave—at the right time and in the right quantity. Also salts them regularly as their instincts demand.

Ask Your Veterinarian About These Ingredients

Powdered Gentian Root
Sulphate of Iron
Bi-Carbonate of Soda
Sulphur, Charcoal
Carbonized Peat
Quassia, Pure Dairy Salt

Experience and chemical science have demonstrated that the correct combination of the above named materials as found in Carey-ized Stock Tonic is an effective worm destroyer and conditioner for all live stock—expels worms, tends to prevent scours, thumps, colic, heaves, etc.—keeps stomach, bowels, liver and kidneys in healthy activity—tones up entire animal system—fortifies it against contagious and infectious diseases.

Put Up in 3-lb. Bricks and 50-lb. Blocks to Meet Every Requirement

Solid brick or block form permits it to be placed where animals can have access to it all the time and partake of it as their instincts dictate. Prevents waste; preserves full medicinal strength to the last bit; saves you all worry.

For Sale By Feed and Hardware Dealers Grocers, Druggists and General Stores

Order 12 bricks or a 50-lb. block from your dealer. If he cannot supply you send us his name (no money) and we will send him for you 12 bricks (35 lbs.) at $2.50 f.o.b. Hutchinson, or 50-lb. block $3. Or if you prefer, send us the amount and we will supply you direct, freight charges collect. If at the end of 60 days' feeding according to directions, you are not entirely satisfied, return what you have left and we will refund your money, including carrying charges. Our guarantee is good. Ask your banker.

Write for Free Book—"Making Live Stock Pay"

The Carey Salt Company, Dept. 251, Hutchinson, Kansas

Carey Salt Co., Dept. 251, Hutchinson, Kan.
Please ship Carey-ized Stock Tonic as per check mark below under your 60-Day Trial Offer.
☐ Care of My Dealer.
☐ Direct to Me (money order enclosed).
☐ One 24-Brick Case.
☐ One 12-Brick Case.
☐ One 50-lb. Block.
☐ Send Free Book "Making Live Stock Pay."
I have.....hogs.....cows.....sheep .....horses.
My Dealer's Name.....
.....
P.O.....State.....
My Name.....
P.O.....State.....

Farm Home Department

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Farm Women Do War Work

Women are doing their full share of war work on the farms of the Rocky Mountain states. Our cover picture shows a progressive woman farmer putting up hay in Gunnison county, Colo. She was found at her duties by the official photographer of the Colorado State Highway Commission.

On this page appears an illustration showing the three daughters of Mr. J. F. Kaiser (an American farmer in spite of his name), helping with the haying. This field is part of the property of St. Thomas' Academy, on the outskirts of Denver. Mr. Kaiser leases the field, along with other suburban tracts of land, to the total of 90 acres. These are scattered tracts, lying at the southeast edge of Denver. But for the enterprise of Mr. Kaiser and his efficient family, these tracts would not be producing crops.

"If I had to hire the labor for this work," said Mr. Kaiser, "I could not handle so much land in scattered tracts. My wife, four daughters and my son, twelve years of age, are the farm hands. We all work together for the good of the country, producing all we can, and we buy Liberty bonds and Thrift Stamps besides."

The photograph was taken in October, while the Kaisers were putting up the third cutting of alfalfa. One big stack of hay was secured, making five stacks in all for the season's work. Corn on an adjoining field made a yield estimated at 60 bushels per acre. On 30 acres of wheat a crop valued at $1,000 was harvested. Potatoes were grown on one and three-fourths acres, but they had not been dug when the writer visited the farm. In 1917, however, the same patch produced 600 sacks which brot $2.40 per cwt. in the field. All crops are irrigated.

Mr. Kaiser is the owner of a ten-acre dairy tract and he wholesales his milk. He grows feed for the dairy herd on the leased land, besides the cash crops, and by utilizing the labor of the entire family is able to accomplish about double the amount he could handle if he had to rely on uncertain hired labor. Mrs. Kaiser and her daughters enjoy working in the fields, knowing that the labor is healthful and productive, as well as of benefit to the nation in this time of stress.

The Victory Loaf

Today there is a universal bread for the millions arrayed against Germany—a "Victory Loaf" we might call it. This bread is made from a mixed flour consisting of four parts wheat and one part substitute cereal—a war bread as befits a warring people, but a fair sweet loaf and large enough to meet the real needs of the "Common Table."

In dividing the loaf, we must keep these needs ever before us. There are many people in Europe, and a few even in this country, whose bread ration must not be stinted. In certain sections of France, wages are so low, and even potatoes so high, that bread is the only food within the reach of the people; and among all the allies bread forms nearly half of the food consumed; therefore we have chosen to provide for these war-tried people a liberal loaf, that can be bought without bread-card or coupon.

We may be sure there will be no waste, for the allies have learned economy in a stern school. And here in the United States, provided as we are with an abundance of vegetables and fruits, most housekeepers should reduce the bread ration to a minimum, for only the strictest economy will enable us to meet our pledge to the allies, and to lay by wheat, against possible disaster and lean years that may come.

We have promised a lot of breadstuff for the Victory Loaf, and only the eternal vigilance of the housekeeper will provide a loaf big enough for this country and the 120 million allies.

You must use all you learned last year about cutting down the bread ration and keep adding new methods. Just to remind you—

Keep your hand in on cornbread and buckwheat cakes.

Continue to use breakfast cereals liberally and cut the bread allowance.

Go right ahead with potatoes, rice and hominy—they are fillers and save bread.

Use now or can any vegetables and fruit left from summer—they help to fill up.

Mix at least 20 per cent of other cereal with all wheat flour used, and above all, mix good sense with whatever you do.

The Cleaning Closet

Entrance of dust and dirt into a house is unavoidable, and the housekeeper is compelled to spend some of her time and energy in the daily cleaning. Thru the use of better equipment and more systematic planning she is able to do the cleaning more easily and quickly. It is well to have a special place where cleaning utensils may be kept in the best condition and ready for instant use. Much time and energy is spent in collecting the utensils needed for cleaning.

A closet, a cupboard, or wardrobe in the kitchen is the best place for keeping the cleaning utensils. A backstair closet is also a good place. One end of a back porch may be inclosed and used for such a purpose. The closet should have plenty of hooks and racks for utensils and a shelf for cleaning materials.

The housekeeper should choose utensils according to her own needs and according to the requirements of her house. Those suggested below are inexpensive and will help to lighten the work of cleaning:

Bucket with wringer for mopping.

A piece of inch board 15 inches square with rollers makes a convenient platform on which to set the mop bucket, and permits it to be moved easily without lifting.

Wall mop made by tying a bag made of wool or cotton cloth over an ordinary broom.

A broom, with a hook screwed in the end of the handle by which it can be hung up.

A long-handled dustpan.

Several brushes for cleaning purposes.

Cheesecloth, worn silk and flannelette for dusters.

Dusters may be made by dipping pieces of cheesecloth in two quarts of warm water to which one-half cup of kerosene has been added. These cloths should be kept away from the stove or lighted lamp, as they are inflammable.

A blackboard eraser covered with flannelette for stove polishing.

An oiled floor mop to use on oiled or polished floors. Several makes can be found on the market, or one may be made of old stockings or any discarded woolen or flannelette material. The material is cut into 1-inch strips and sewed across the middle to a foundation of heavy cloth. This is fastened to an old broom handle or used in a clamp mop handle. The mop is dipped into a solution made of one-half cup melted paraffin and one cup kerosene and allowed to dry. To keep it moist, it is rolled tight and kept in a paper bag away from stove or lamp.

A carpet sweeper or a vacuum cleaner should be used in the daily cleaning of the carpets and rugs. A vacuum cleaner operated by hand or electric power removes practically all the dust and dirt from carpets and rugs in a dustless manner.—Madge J. Reese, U. S. Department of Agriculture.

Colorado Farmerettes Putting Up Alfalfa Near Denver

One morning Jorkins looked over his fence and said to his neighbor, Harkins:

"What are you burying in that hole?"

"Just replanting some of my seeds, is all," was the answer.

"Seeds," exclaimed Jorkins angrily. "It looks more like one of my hens!"

"That's all right," said the other. "The seeds are inside."—Harper's Magazine.

Convenience—Comfort—Luxury

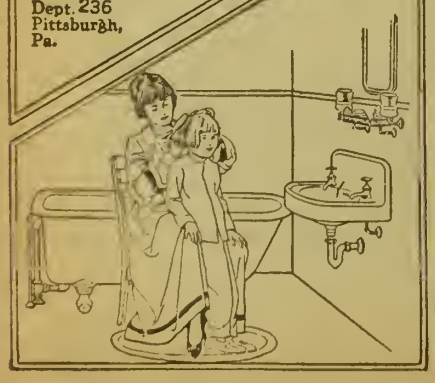
Good Plumbing—"Standard" fixtures—should be in every home which has running water. The family should have the luxury and comfort of these modern conveniences in Bath, Kitchen and Laundry.

"Standard" Plumbing Fixtures

If you have running water or expect to build or remodel, with a water supply, consult your contracting plumber. Ask about "Standard" fixtures. They represent highest quality; are the product of long manufacturing experience and offer a wide variety of styles. Look for the "Standard" Green and Gold Label. See that it is on the plumbing fixtures you buy. It is an assurance of satisfactory service.

Write for book, "Standard" Plumbing Fixtures for the Home."

Standard Sanitary Mfg. Co.
Dept. 236
Pittsburgh, Pa.



Trapped

(Continued from Page 15)

er and bound with bolts of iron to form the monument. It lifted a dozen feet or so above high tide, and on the northwest side an iron ladder led up its steep sides. Eben had been here before. He swam around to this side, laid hand on the ladder, drew himself upon it and climbed to the level top of the monument.

The top of the pile of stone was about ten feet square. The bug-light was set at the top of a little lighthouse, whose round, white sides reared themselves not more than ten feet above the monument itself. It was flashing steadily when Eben climbed up to its base; and he gave it only a glance, then sat down with his legs hanging over the sides of the monument to look off into the fog and consider what was next to be done.

After a moment, something touched the back of his neck and he turned to face three men. One held a pistol at Scour's head; the other two had weapons in their hands. "Good evening, my friend," said the man with the gun at Scour's head.

Scour smiled. "Hello, Carl," he said. The man uttered a low exclamation and moved to one side so that the bug-light shone at its next flash full on the lame man's face.

"Oh, it's you, Scour," he cried then.

"Yes—of course."

The other men laughed, and they put away their weapons. "That's a joke on us," said the one called Carl. "What in time—"

"Some of the gentlemen at the Barbette—Lieutenant Morse, and Hobart—got officious. They tried to—arrest me. So I swam off here." He rose and faced the three. "What are you up to?"

"Watching to see what we—might see."

"Where's the boat?"

"Lying off and on beyond the bell-buoy. Landed us here. Coming for us at daylight."

"Got any dry clothes aboard her?"

Carl laughed. "Sure. You must be cold."

"I am," Scour admitted. "Send for some for me—and some grub, will you?"

"Hungry, too?"

"I'm—planning to camp here for a few days. It's as good a place as any."

"Camp here? There's no shelter."

Scour nodded toward the light.

"You can't get in there," Carl objected.

"Oh, I've a key," Scour told him. "Door's on the other side."

Carl laughed approvingly. "Fine," he agreed. "I'll leave you a rifle—and some flares."

"Also clothes, food and water," Scour agreed. "And—don't hesitate to get the clothes right away."

Carl turned to one of the other men. "Signal the boat," he directed; and the man lifted a pole with a square black cloth in a frame upon the end of it, and held it for an instant to shut off the flash of the bug-light. An answering signal burned in the fog toward the bell-buoy; and five minutes later a rowboat approached the monument. Carl went down the ladder and gave his instructions. The boat departed and was hidden in the fog again; and Carl returned to the top of the monument.

"You think you'll be able to—find out something here?" he asked Scour.

Scour nodded. "It's worth a try. I'm of no more good at the Barbette, at least. Our friend the—well, our friend will watch out for things there."

Carl assented; and when he saw that Eben was shivering, loaned the little man his coat. They waited till the boat returned. Eben unlocked the door into to the bug-light's foundations and inside they stored food, a small keg of water, a blanket and dry clothing. The quarters were narrow, the big acetylene tank which supplied the light occupied most of the space. "I can manage, though," Eben decided.

An hour before dawn, Carl signaled the boat and prepared to depart. "Keep a watch on the light," Eben told him. "Unless you're on other duty."

"No—this is our job now."

"Then watch the light and I'll signal you if anything turns up."

"The code?" Carl asked, and Eben nodded. A moment later, Carl and his two men embarked in the boat and were disappearing in the mist.

Eben had donned dry, warm clothing; and he had no thought of sleep. He brought out a blanket and made himself comfortable with his shoulders against the structure of the light; and thus awaited dawn.

Presently, the mists began to pale; and at length, to the eastward, they lifted so that the sun rose clear above a slate-blue bay. A little wind sprang up and fanned the waters into gentle ripples. Eben reluctantly reentered the light, for it was necessary that he keep out of sight during the day; and within he climbed until he could look out thru the lenses and so secure a distorted view of all that went on in the bay about him.

The shore north of the monument was scarce a quarter of a mile away; and it was lined with weirs, while cottages looked down on them. The island to the east stretched four miles north and south, and to the south the bay wound between other islands to the sea. Eben could distinguish the row of cottages that constituted the colony at the Barbette, and he watched them curiously, speculating as to what must be going on there, wondering whether Morse and Hobart had explained his disappearance, and how they had explained it. Anne Marshall? What had they told her? Had she believed?

The harbor and the town were northwest of the monument. At about eight o'clock, Eben saw the Boston boat coming, far down the bay, and he watched it touch here and there and pass the Barbette and stop for a time at the pier in town. Then it crossed south of the monument, touched at the northern end of the island to the east and finally rounded the island's southern tip and disappeared as it turned northward toward the river. It gleamed white in the sun and the gulls that circled and trailed it were like fluttering bits of paper in the wind.

When the boat was gone, the bay remained for a time empty. Then a drifting cloud of smoke appeared to the south; and a tug snaked three coal barges up the bay. South of the island it gave them orders with dull blasts of its whistle, dropped two, took the other around the island to the mouth of the river, then returned and picked up the other two for a different destination.

The little passenger boat that plied back and forth across the bay passed and repassed twice during that long day; and a motor-boat or two barked across between the monument and the nearer shore; and at low tide Eben saw the fishermen busy in the weirs. Once a man in a motor-dory came out toward the monument itself, and at first Eben thought he was going to land. But the man simply pulled six lobster pots laid between the monument and the bell-buoy, found a dozen lobsters in them, rebaited the pots and departed.

But no one landed on the monument, and Eben knew it was unlikely any one would do so until the government boat made its regular round to tend the light. He slept for a part of the day, and at dusk came out from his shelter inside the light and bathed his lungs with fresh air that tingled and thrilled him, after the jaded air inside the light.

He took a short swim, sporting with the choppy waves, and then settled down for his vigil through the night; and so that he might be prepared for whatever should come, he stowed all his belongings inside the light and closed and locked the door.

After a time, he heard a motor, far off to the southward. It came nearer and his ears at length began to distinguish the tune of its exhaust. Then his attention relaxed, for he recognized it as one of the fishing boats that went down the bay every evening to set their trawls four or five miles below.

An hour later another motor-boat came toward the monument, but it passed in the night, a dim shape on the star-lit waters.

It was almost midnight when a new sound caught Eben's ears; a sound that at once impressed him with a sense of stealth and secrecy. It was a muffled, thudding sound. He peered off into the night to identify it, and saw at last the outline of a slender shape; and in another moment he recognized the approaching craft as a dory, with an engine which exhausted under water.

At the same time he saw that the dory was heading toward the monument.

Eben lay flat on his face, waiting. The engine of the dory was shut off; and someone in the craft took the oars and worked it slowly toward the ladder that led up the side of the monument. Eben lay still as stone, listening, listening. He began to catch the whisper of low voices, but the words could not be distinguished.

He heard the dory bump lightly against the ladder, and some one prepared to climb. Eben backed across to the opposite side of the monument. There were wide clefts between the blocks of stone and he let himself down over the side and set his feet and hands in these cracks and descended toward the water. He was here to watch, not to act.

When the waves were breaking just below him, Eben stripped off shoes and coat and tucked them into a wider crack between the stones. There were footsteps on the top of the monument now. Eben slipped down into the water, swam noiselessly for fifty feet, then circled and came around to the south side of the light to watch.

He could distinguish a man's figure on the top of the monument; and he saw that the man was stooping over some contrivance which lay at his feet. Eben watched.

Presently the man raised the thing upon which he had been busy. His figure, and what he held, were dimly silhouetted against the white sides of the bug-light. He lifted these until the black shield obwhich something black was stretched. He lifted thes euntil the black shield obscured the flashing bug-light on the southern side.

"Signaling," Eben whispered softly; and a choppy little wave splashed over his head. He came up blinking, spitting out the salt water, and set himself to read the signals. "I'd give a nickel for pencil and paper," he grumbled.

He found that he could not read the signal. The code-letters came too swiftly ;they confused him. The figure by the light kept on mechanically raising and lowering that black screen, making dot — dash — dash-dash — dot, endlessly. Eben suddenly perceived that a second figure had joined the first, upon the monument beside the light. He swam nearer, till he could catch the low hum of voices; and he guessed one was dictating the message which the other signaled.

Then Eben remembered the dory, moored to the ladder beside the monument; and he started to swim to it, thinking he might steal the thing away and leave the signalers prisoners on the monument. To reach the dory, he was forced to swing out to the east; and as he turned that way he saw the other motor-boat approaching.

It was a large, dark craft; a shadow against the night. Eben had been too absorbed to hear the beat of its propeller before. It was coming straight toward the monument. Eben watched cautiously and moved to one side to avoid it.

As though the boat had seen him, it also swerved. It was racing toward him, not fifty feet away.

Eben took three strokes back the way he had come; and the boat once more changed its course as though to pursue him. Eben dived.

He dived and swam downward until he was sure the boat would pass over him; and when he turned on his side and looked up, the dark shadow of the craft was directly above his head. He held his place; the boat passed.

Eben came to the surface cautiously, half expecting a shot. He lifted his face above the water, caught his breath, and then climbed a wave and peered through the night toward the monument.

The boat which had passed above him was stopping; and after a moment he saw it making fast to the ladder beside the dory.

The two men on top of the monument had ceased signaling. They were standing at the top of the ladder, watching; and after a moment Eben saw a man's dark figure climb the ladder and join them.

The three stood, silhouetted against the starry sky, talking together.

To be continued

New Laws the Farmer Needs

Editor Western Farm Life:

During the activities of the last state campaign the candidates for the various state offices of both parties were very anxious to get before the voters their pledges to the people, and to make their earnest appeal to the voters, if elected to work for the interest and welfare of the farmers and laborers. How well they will keep their pledges can better be told after they have served the people thru their terms of office. There are many laws that would be for the interest of the people of the great state of Colorado and especially to the farmers.

1. A bill to regulate unfair discriminations in prices of all kinds of grain.

2. A bill to make all notes or mortgages taxable, and to provide for a note stamp to be placed on all notes, and to be recorded in county clerk's office. All notes or mortgages not so recorded not collectable by law. This law, if properly drawn, would uncover thousands of dollars loaned out to the farmers and laborers at a high rate of interest that does not show up on the tax records. To avoid taxation of notes many men who loan money take no security on any property, but take a note signed by man and wife and no public record is made of the transaction.

3. For the benefit of the farmers we should have a law to protect the quail or bob-white, prairie chickens, grouse, or sage hen. The value of these game birds cannot be estimated in dollars and cents to the farmers and they should be protected by a closed season for a number of years, and a heavy fine. The past season in eastern Colorado we had in several localities of this and adjoining counties, an outcropping of army worms and grasshoppers, which did considerable damage to some crops. If we had a law protecting these game birds they would have been of untold value to the farmers this coming season, and I hope to soon see a closed season on all game birds for a term of 20 years.

4. For the benefit of the schools, pupils, parents and teachers, we should have a law for uniform text books for the state. This law should have been enacted years ago. We have in eastern Colorado as many different text books in use in each school as we have different grades. And at the beginning of each term of school we are asked to buy new books because we have a new teacher, and she or he does not like the books we have, or has never used them, and this makes an added expense to the patrons. There are no two schools that use the same text books, and if the poor man moves into another district, he must buy a new supply of school books. And then we are paying too much for our school books. We go to the bookstore and ask for school books such as the first or second grade readers. We pay from 45 cents to 65 cents. And at the same time and place we can buy a novel for 15 to 25 cents each. With a law that the state of Colorado publish its school books, or contract with a single publishing house for same at a nominal cost, we could save to the school patrons thousands of dollars annually. There are many laws that are of great necessity to the farmers, but I cannot enumerate them all at this time.—A. C. Cauble, Phillips county, Colo.

Dry Farming at 7,000 Feet

Ans. to R. M., New Mexico.

Mr. Barrup's idea of plowing deep in the fall for a big crop of sorghum the following season is certainly a good one and the land, as he suggests, could well be planted to winter wheat in August for a fall pasture for ewes. Mr. Barrup naturally takes it for granted that the farmer understands the limitations of altitude, and his proposition would be practical in the rolling plains area of New Mexico more than at a higher level. Sorghum has been raised in some districts at 7,000 feet altitude, but at this height there is no margin of safety. If the season is cold, the crop would be a partial failure, or if an early frost caught it before maturity it would be seriously damaged. Since you have proved up on corn, I would stick to it until you discover something better by experiment.

Nothing could be better in order to raise good corn or ensilage than the method you have outlined in your letter, but in case of a wet winter and considerable settling and packing of the plowed ground, a very thoro disking will be necessary in the spring to loosen it up before plowing.

In dry weather, when the moist soil is some inches below the surface, as it was last spring, there is nothing like the lister and drill combined for planting the seed in the bottom of the damp furrows. The handiest sized lister is one that opens a furrow of 12 inches, because the usual distance apart for corn is 36 inches, and an implement of this size plows exactly three furrows from row to row.

If you always plow in the fall you will find that after a season or two you will have no trouble about moisture near the surface, and I believe that a two-row corn planter, which will seed as deep as four or five inches, will be all that you will need. In hilly country the planter is often preferred to the lister on account of spring freshets washing out the furrows and burrying the young corn. In wet, cool weather corn should be planted shallow only one or two inches, but in warm weather it is safe to plant it from three to five inches, according to the soil moisture. Australian corn is a good type for your altitude and is one of the best for ensilage. It should be planted one grain at a time a foot apart for ensilage, but from two to three feet apart for grain.—E. R. Parsons.

How a Farmer Made $1,000

A farmer who kept accounts under the direction of the University of Missouri College of Agriculture the last two years made a thousand dollars thru better hog feeding. Like many persons, he knew better than to do as he was doing, but he was Missourian enough that he had not only to be shown, but must do the showing himself. This is where the farm accounts system came in. He adopted hog feeding methods that animal husbandry experiments have shown beyond question to be practicable. His accounts convinced him that such methods were practicable for him.

The first year this farmer's hogs made a return, after all other expenses including labor had been paid, of $1.03 a bushel for the corn fed. Corn sold locally for about 89 cents. This left a profit of 14 cents a bushel from feeding the corn. That was not so bad, but the next year he determined to do better. The next year his hogs netted a return of $3 a bushel for the corn fed. Corn sold locally for $1.40 a bushel. This left a profit of $1.60 a bushel from feeding the corn. The price received for hogs the second year, however, was 66 per cent higher. This would account for an increased receipt per bushel of 66 per cent of $1.03, or 68 cents. Other things being the same as the year before, $1.71 a bushel for corn could have been expected due to the increase in price received for hogs. The actual returns amounted to $3 a bushel. This leaves the difference between $3 a bushel and $1.71 a bushel, or $1.29 a bushel, increased profits due to improved methods. To be conservative and clearly within the limits of truth, the difference due to better methods was counted as an even $1 a bushel. Eleven hundred and thirty bushels of corn were fed. The saving was safely put at one thousand dollars.

America and the allies have pooled food resources, and it is now up to every American to put more in the pool and take less out—no spillways are wanted.

Coyote Caught in Trap on White River National Forest, Western Colorado
(Photo Courtesy U. S. Forest Service)

Big Money in Trapping

The time of year has arrived when the trapping of fur-bearing animals is of interest, and those who are planning to set out traps will find it to their best interests to perfect their plans now. The pelts of coyotes and bobcats are especially valuable for use in army and civil life, and the trapping of these animals will net a handsome return. During the past trapping season the average price paid for a coyote's hide was $10. Only a few years ago the best of hides could be purchased for $1.50.

There are other animals which are of value, such as the gray wolf, mountain lion, Canadian lynx, skunk, marten, mink, fox and muskrat. This latter animal is by some very greatly esteemed. The furs bring good money and the animals are easily captured. Along the irrigation ditches, irrigation reservoirs and sloughs these animals are very abundant and have been increasing rapidly during the past few years. They do much damage to irrigation ditches and, therefore, should not be allowed to increase to an unlimited number. The flesh of the muskrat makes excellent food and is used in the Eastern states in many large hotels as a delicacy. The fur is particularly valuable in the making of clothing for soldiers and undoubtedly the price will be higher this year than formerly.

In certain portions of the state beaver are increasing rapidly and are doing actual damage to irrigation works and farms. If a plan could be worked out by which the state game authorities could trap these animals and place their furs on the market, there would be a good revenue to the state and the furs would be available for our army's use. The present arrangement, whereby permits may be secured for the trapping of beaver, is unsatisfactory to all concerned for not many beaver are caught and the hides are not cured in the best manner, nor are they put on the market to the best advantage.

Aside from the need for furs for use in the army and civil life, the eradication of the predatory animals such as coyotes, wolves and lions, is very desirable. The yearly damage done by coyotes, wolves and bobcats to domestic stock is very great. The United States Biological Survey has about twenty trappers employed in the state of Colorado for the trapping of these predatory animals. They are having very material success in reducing the number of such animals and this work will be continued, but there is still much work for local trappers to do along this line. Every mountain lion killed saves at least one deer a week, besides numerous colts, pigs and other domestic stock. In the trapping of wolves much livestock is also preserved, since a full grown wolf will destroy from $1,000 to $3,000 worth of cattle in one year.

The depredations of the coyote are too numerous to need repetition. The damage they do to chickens, turkeys, other fowls, and even to calves and pigs, amounts to a very material loss to the farmers of all our western country.

By trapping these different animals then, we are serving two purposes—clearing from the country these pests and placing at the disposal of the army furs which are very badly needed.—H. N. Wheeler, Forest Supervisor.

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Tillage and Replanting Helps Native Pastures

(Continued from Page 5)

but the farmer who irrigates and can transfer his hogs to a fresh luxuriant pasture of just the right growth every few weeks and has plenty of skim milk can raise his hogs on very little grain.

Sweet clover is sometimes recommended for dry land pasture purposes, but in my opinion its chief value is that of a fertilizer. Its roots, like alfalfa, go deep into the subsoil, opening it up in all directions. After the crop is off these roots, which are rich in nitrogen, become converted into humus and add materially to the fertility of the soil, but to obtain the full benefit the crop itself should be plowed under. Sweet clover on the dry farm does not amount to much the first year unless the season is very wet, in which case it will afford some grazing in the fall. The second year it makes a vigorous growth and it can be pastured until it dies out, which is in the summer of the second year. If it is intended to be plowed under for fertilizer it should not be grazed too late in the spring, for otherwise the growth will suffer. On the irrigated ranch sweet clover is a rank grower, will afford good pasturage the first year and may grow four or five feet high the second, affording an enormous tonnage to plow under.

Under regulations published by the Berne Cantonal Government egg merchants must have a special trade permit from the Swiss Food Supply Office. Justice and Police Departments. The maximum retail price of eggs has been fixed at seven cents apiece and small eggs must be sold at lower rates. Infraction of the regulations are punishable by fines varying from $40 to $2,000 or by 60 days' imprisonment.

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The week also saw the purchase by the fur men of Liberty bonds to the amount of $2,500,000 and generous donations to the Red Cross and other war relief funds. In addition, transactions among the buyers totaled more than $2,000,000 and it is estimated that more than $10,000,000 was involved in the week's trading.

Sixty-four kinds of fur, known to dealers from every part of the world, were listed in the 350-page catalogue of the sale. They comprised more than 3,500,000 pelts, divided into 110,000 lots for the convenience of buyers. Every state in the Union, every province in Canada, and twenty-five foreign countries contributed to the catalogue. Each pelt had to be checked, entered, graded and catalogued. St. Louis gradings and lottings are quoted and accepted as standard wherever furs are bought and sold.

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The coming National Grange session, so soon to open at Syracuse, is destined to be one of the milestones in Grange history, and the policies there fixed upon are certain to be large determining factors in establishing the future of the organization, as well as in their effect upon the great agricultural industry whose destiny rests so largely in the hands of the Grange. Never has a National Grange session been held amid such chaotic world conditions as those which will environ the Syracuse gathering; never so much uncertainty, among statesmen and leaders of every sort, what the future is to bring, to agriculture, as well as to every other department of human affairs.

Such a situation is inevitably fraught with acute dangers, especially to an organization which not only concerns itself with the big problems of the hour, but which also attempts to shape its policies for a long-distance future. Upon the Syracuse session, to a peculiar degree, will devolve the responsibility of keeping the Grange on solid ground, its policies firmly tied to the moorings that its years of experience shall safely dictate, and sternly refusing to let the Grange be carried off its feet by any of the present day tendencies which contain so many elements of danger. No doubt, the Syracuse session will be called upon to reject some propositions as positively as it will heartily indorse others; to distinguish clearly between the real and the superficial in agricultural considerations; and to assert anew the stern fact that the things that are new have no monopoly on merit, and that a policy must not necessarily be thrown into the discard simply because it is old.

To keep the Grange "right side up" at a time when some organizations and many individuals are failing to do that very thing, will be one of the big tasks of the coming session, in order that the National Grange may start the work of a new year with a firmly established policy, that shall be forward-looking in all wise directions, but avoiding every semblance of a course which may be regretted in days to come. To maintain such wisdom, and to preserve intact, even amid wholly new conditions, the sound traditions of the founders, is the responsibility of the voting delegates of the National Grange session—a responsibility to which they will be properly held by the entire Grange membership thruout the land.—National Grange Monthly.

Hardwood Trees for Colorado Planting

(Continued from Page 3)

the leaves resembling willow in shape. The tree is crooked and low-branching, making good summer windbreaks. The species was introduced chiefly because it was a drouth-resisting, alkali defying tree in its native home in Russia. It has not lost its characteristics here. A beautiful hedge was recently observed around some hospital grounds in Denver and inspection showed that it was Russian olive nicely trimmed. This species will serve, then, for hedges, shelterbelts and as ornamental trees attaining only a moderate height of from 20 to 30 feet.

The next article of this series will discuss a few evergreen trees suitable for eastern Colorado, possibly more suitable than any broadleaf or hardwood trees.

An Armistice, Not Peace

On November 7th, when premature rumors of an armistice were being published, L. G. Carpenter, director of publicity for the Colorado Council of Defense, sent to all county councils a telegram, incorporating a message of caution he had just received from Franklin K. Lane, Secretary of the Interior. The telegram, which follows, advises that there be no letting down of war activities anywhere along the line:

Don't take reports of armistice too seriously until fully confirmed. An armistice is not the same as peace. All efforts must be continued in any event for months, county councils, Red Cross, Savings, enrollment, food saving, and labor too should go on just the same. A telegram from the Chairman of the Field Division of the National Council of Defense, Franklin K. Lane, who is also a member of the President's Cabinet, just received, gives caution, and says:

"I earnestly beg that you do not relax your efforts in the slightest degree on account of the possibility of an early armistice. Even if an early armistice should be concluded this does not mean that the war is over, and in any case the emergency will not be over for a long time."

These reports are in danger of causing relaxation of effort which is now more important and decisive than at any other time. L. G. CARPENTER.

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and keep me posted on Raw Fur Market Conditions during the Fur Season of 1918-1919.

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Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Readers of Western Farm Life have noticed that I read my Bible and that I am especially fond of Solomon. Here is one of his sayings: "There is a time for everything." This is apropos of what I have in mind ust now. It is time for two things, viz.: the following letter from a reader of Western Farm Life who has lost two-thirds of her flock by ptomaine poisoning and the following clipping which is typical of much that will be found in the press during the months of egg shortage.

Here is the story:

"I am writing for information regarding the death of some of my chickens. When they went to roost last night they were as well and healthy as they had ever been, but this morning some were dead and some were sitting on the roost with their heads hanging down. We took them out of the hen house and they would sit flat to the ground and their heads would drop to the ground. They did not seem to have any use of their legs or necks. They laid that way for two or three hours to half a day before they died. After they had lain that way for a while they would jump up and fall to the ground every once in a while. Last night I fed them a gallon of home canned sweet corn that had spoiled. It was canned in glass jars with glass lined tops. Do you think the corn caused them to die, and if so, why? There was only a little salt in the corn, about two tablespoonfuls. About sixty chickens ate it and forty chickens have died and others still getting sick the same way this afternoon."

In regard to the poisoning, *do not* feed spoiled canned goods to animals; burn them or bury them; spoiled corn or peas means in most cases poisonous corn and peas and is as dangerous to animals as to humans. The Lord has given us a good smeller, let's use it or if ours is gone wrong let's borrow someone's to test every can of vegetables we open. Taste will help out, but a smell is proof positive of the sweetness and safeness of canned goods. Sometimes we open a can of vegetables that seems neither good nor bad; we hesitate about its condition as it is just a little "off." Don't use it, it doesn't pay to take the chance; eat only that which smells and tastes perfectly sweet.

Here is the clipping:

Mrs. Hen a Big Producer When "Stewed"

By United Press

London, Oct. 3. (My Mail.)—Mrs. Hen says to her lord and master, "Another little drink wouldn't do me any harm," it'll be no use for him to argue the point. She is backed by authority.

The professor of agriculture at Fontainebleau has ben making a discovery about eggs.

He took a dozen hens and gave 6 of them a little wine each day and kept the other 6 enforced teetootalers. Stimulant triumphed over prohibition and the teetootallers were beaten to a frazzle. They laid only 27 eggs as compared with the wine-bibbers' 180, and the latter were much superior in quality.

About the clipping: of course, we are not afraid that our readers will feed wine to their hens to make them lay—wine is worth more in this desert of ours than eggs; but we are going to be tempted to put some of our good honest money into egg makers and dopes to increase the egg yield. Do you dope the cow for more milk? Then why the hen for eggs? In each case the raw material is made into the finished product by a perfectly natural process and neither animal needs anything but plenty of raw material in proper proportions. The things that will produce maximum milk flow will produce maximum egg yield; health, vigor and conditions, plus shelter, water and balanced rations. In other words, if your fowls are in good condition, viz.: matured and healthy, and if they are properly cared for and fed, they will lay; if they need conditioners and dopes they are out of condition so far as laying is concerned.

Chickens Sick?—Use Germozone
Roup, colds, bowel troubles, sore head, limber neck, etc. At dealers or postpaid 75 cts. with 5 book Poultry Library. GEO. H. LEE CO., Dept. 445 OMAHA, NEB.

Fighting Poultry Diseases

Poultry raisers who wait until disease appears in the flock and then prepare to make a defensive attack are likely to be successful only in rare cases. By far the best plan, say poultry specialists of the U. S. Department of Agriculture, is to care for the flock in such a way that disease will not appear. The aim in controlling the diseases of poultry is to learn how to prevent them rather than how to cure them. To enlighten poultry owners as to the characteristics of the more important diseases in order that they may intelligently use the most improved methods of combatting them, Farmers' Bulletin 957, "Important Poultry Diseases," has recently been published by the department. The causes, symptoms and treatment of poultry ailments, from aspergillosis (brooder pneumonia) to worms, are given in this publication.

The greater the number of birds kept upon any farm or plot of ground, and the more they are crowded together, the more important are the measures for excluding, eradicating and preventing the development of the causes of disease.

When disease appears among poultry the fowls should be removed from the poultry yard and a good coating of freshly slaked lime be applied to the entire surface of the ground. After a few days it should be plowed and then cultivated three or four times at intervals of a week and finally sowed with oats, rye or other grain. It is best to leave the ground unoccupied by fowls until the winter has passed. After the fowls have been returned the premises must be frequently cleaned and occasionally disinfected.

The drinking fountains and feed troughs must be washed every week with boiling water or other disinfectant, and if any lice or mites are found on the birds or in the house, the roosts and adjoining parts of the walls should be painted with a mixture of kerosene, one quart, and crude carbolic acid or crude cresol, one teacupful. The house may be whitewashed with freshly slaked lime or sprayed with kerosene emulsion. In case of an actual outbreak of a virulent disease it is well to add to each gallon of the whitewash six ounces of crude carbolic acid. Good disinfectants destroy the germs of contagious disease, the external parasites such as lice and mites, and in some cases the eggs of parasitic worms and should be used frequently in and about the poultry house.

Care of Young Turkeys

My little turkeys when about a week old seem just to get weak and die. After they get weak they don't live very long. Please give a good way to start turkeys out. What to feed and how much. Should they be kept in a pen for awhile, and how long?MRS. A. P. P., Bent County, Colo.

Possibly the unusually wet season has been the cause of much trouble with young turkeys, as they will not stand wetting and chilling so well as baby chicks. We are sending you Farmers' Bulletin No. 791 which may help you in the care of young turkeys. We have found that the best results are obtained when the mother hen is kept confined for the first few weeks of the poult's life, letting the little ones run. Turkeys should always be given free range, and under these conditions the feed found on the average farm is sufficient to keep them in good condition. Lice and mites should be guarded against.

Barley for Feed

Attention is directed by the U. S. Food Administration to the abundance and relative cheapness of barley as a feed for livestock. The plentiful supplies of this grain, if utilized freely, should partly compensate for the shortage of wheat mill feeds occasioned by the artificially low price and the consequent abnormal demand.

An additional reduction of nearly one million tons of feed annually is now brot about by the higher milling extraction which diverts this feed into flour. Distillers' and brewers' grains are practically off the market and soon after December 1, when the breweries stop operation, this source of feeding stuff will be closed entirely.

Barley is an excellent feed, but except for poultry, should be ground to secure best results. Farmers may assist in solving their feed problems by urging dealers to put in liberal supplies of ground barley, or of the whole grain in case facilities exist for grinding it on farms.

The Food Administration points out the desirability for farmers to keep in touch with changing conditions imposed by war and to adapt themselves accordingly as in this case. The principle of using a less familiar feed, to take the place of another of which there is a shortage, is similar to readjustments which have already been made in human food.

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

GOOD DRY LAND FOR SALE. Address Box 172, Sedgwick, Colo.

WANT TO HEAR FROM OWNER OF FARM OR fruit ranch for sale. O. O. Mattson, St. Paul, Minn.

WANTED—TO HEAR FROM OWNER OF FARM or unimproved land for sale. O. K. Hawley, Baldwin, Wis.

FOR SALE—FIRST CLASS IRRIGATED FARM, 226 acres near Denver. Terms reasonable. Address J. G., Western Farm Life.

I HAVE CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give description, location and cash price. James P. White, New Franklin, Mo.

WANTED TO HEAR FROM OWNER OF GOOD farm for sale. State cash price; full description. D. F. Bush, Minneapalos, Minn.

REAL ESTATE WANTED—Sell your property quickly for cash, no matter where located, particulars free. Real Estate Salesman Co., Dept. 11, Lincoln, Nebr.

ATTENTION, LAND SEEKERS—THE FINEST grazing and farming land in the state of Colo., from 20 to 50 miles from Denver. Can be bought at $15 to $25 per acre; good terms. Write us for particulars. The Parker Land & Cattle Co., Parker, Colo.

I OWN AND HAVE FOR SALE ONE OF THE best ten-acre tracts, located close in, improved with five-room house, all kinds of chicken houses, three chicken yards, well set to alfalfa, incubator cellar 30x60 feet plastered. Over four hundred dollars of alfalfa sold off place this year, well windmill and supply tank, water piped to yard and garden. Price $4,500, $1,500 cash, balance three years at six per cent; no trades. Wright J. R. Anderson, Fort Morgan, Colo.

POULTRY

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

SINGLE COMB BUFF LEGHORN COCKERELS. Prices reasonable. T. F. Roberts, Osawatomie, Kans.

BUFF LEGHORNS—BEST LAYERS ON EARTH. Breeding cockerels. Champney, 25 S. Logan, Denver, Colo.

PURE BRED, YOUNG BARRED PLYMOUTH Rock Cockerels, $2.50 each. Mrs. John Shearer, Frankfort, Kansas.

FOR SALE—WHITE WYANDOTTE COCKERels, hens and pullets. Prices reasonable if taken now. Mrs. Geo. Wheeler, Route A, Otis, Colo.

HEAVY LAYING TYPE SNGLE COMB RHODE Island Red Cockerels, line bred for sixteen years. Lower's Poultry Farm, Arvada, Colo. Free catalog.

SUYDAM'S MINORCAS—SINGLE COMB BLACK Minorca cockerels, exhibition and utility stock. Write for prices. H. R. Suydam, 4500 Bryant Street, Denver, Colo.

BUFF ORPINGTON COCKERELS FOR SALE, from high-producing birds. Prices low if taken soon. W. M. Shirley, 3934 S. Bannock St., Englewood, Colo.

BARRED PLYMOUTH ROCKS—A CHOICE LOT of cockerels of both the light and dark lines. Bradley and Latham strains—none better. Price $3 and up. Chester Blunt, Route 1, Greeley, Colo.

SHANK'S ORPINGTONS—S. C. BUFF—GREAT layers—great winners. Utility and exhibition stock for sale. Get my prices and state your requirements fully. A pleased customer or no sale. F. M. Shank, Route 2-A, La Junta, Colo., State Vice-President National S. C. Buff Orpington Club.

A Pinto Bean Recipe.

The following is a copy of a letter received by the Bean Division of the United States Food Administration in Denver some time ago from a farm woman in Lincoln county, Colo. It contains a pinto bean recipe that is worth trying:

I was handed a little paper the other day called Bulletin of United States Food Administration for Colorado, and read the article on pinto beans. Now, we live sixty miles east of Colorado Springs a little south and we raise the pinto beans. Now, if it was not for them we could not stay here and farm, neither could our neighbors, for the corn is not very profitable here and the beans are a very poor crop all over this part of the country this year. Now, I used to cook in Colorado Springs and had the name of being a very fine cook, and I am going to send you a recipe for cooking pinto beans. Many people that have eaten beans that I cooked said they were the best they had ever eaten.

Soak your beans all night in cold water. In the morning wash good, put on in cold water; let boil one or two hours. Then add half butter and half lard and salt to taste and plenty of chile pepper. Do not add any cold water while cooking; add boiling water every time that they need more water. Use salt pork if you can get it. Slice it very thin and add a little lard or compound.

Not half the people know how to cook the pinto bean. By the way, I wish you could get this recipe before the public, and don't forget to get the beans before them, too, or thousands of us will have to move from the plains.—Mrs. I. H.

FOR SALE—ONE HUNDRED BARRED ROCK cockerels Our barred rock cockerels are raised not only from prize winners but the best of layers; breeding stock at $5 each; prize winners at $10 to $15 each. Write J. R. Anderson & Son, Fort Morgan, Colo.

COLUMBIA HATCHERY—WE CAN SUPPLY you with all leading varieties of cockerels for next spring's breeders, also ducks, drakes, turkeys and geese. Prices certain to advance in the fall, as there is no doubt of a shortage of breeding stock. Write for prices and kind wanted. P. O. Box 1102, Denver, Colo.

LIVE STOCK

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

CATTLE

FOR SALE—OUR REGISTERED HERD OF 65 large type Anxiety breeding Hereford cows with calves at foot at $350 per head with calf, together with two very high-class herd bulls. Will sell early bull calves now at from $100 to $150; this is a bargain. J. O. D. Ranch, Aroya, Colo. On U. P. R. R.

FOR SALE—HIGH GRADE HOLSTEIN OR Guernsey heifer calves. $24.00 crated or $30.00 express paid. Herbert Taft, Whitewater, Wis.

WILL SELL REASONABLE 200 HEAD FOUR-year-old pure bred Hereford cows, also 150 head thin calves. Address Owner, Box 35, Hillside, Fremont County, Colo.

HOGS

REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemoor Farm, Littleton, Colo. Caldwell Martin Owner.

A FEW BIG TYPE POLAND CHINA BREAD herd boars left, spring gilts all sold. W. J. Peterson, Seibert, Colo.

BIG TYPE MULEFOOT SPRING BOARS, BRED sows and pigs at weaning time, priced to sell. Sinn's Mulefoot Ranch, Alexandria, Neb.

DUROC JERSEY HOGS, YOUNG STOCK OF both sexes, as well as a few bred gilts in farrow to Orion Cherry King the 15th, out of Defender and Colonel sows. Your money back if not satisfied. J. O. D. Ranch, Aroya, Colo., On U. P. R. R.

LOST

THREE WEEKS LAST FRIDAY—SIX IN A bunch, three mules and three horses:

1 bay mule, branded YL on hip, weight 700 lbs.
1 brown mule, weight 950 lbs.
1 black yearling mare mule, weight 550 lbs.
1 bay horse, brand [illegible] on left hip, weight 1,200 lbs.
1 gray horse, weight 1,000 lbs.
1 black mare, two years old, scar on left hip, weight 750 lbs.

Good reward offered for information leading to their recovery. Phone Louisville, Colo., 62J.

MISCELLANEOUS

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

THOUSANDS GOVERNMENT JOBS OPEN TO men, women and girls. $95 month, quick increase, short hours. Common education sufficient. Write immediately for list of positions open. Franklin Institute, Dept. Y172, Rochester, N. Y.

BEE SUPPLIES AND HONEY

BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

KODAKS

KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St., opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies; develop any size roll films, 10c; print pictures, 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper

SEEDS

CHOICE WHITE SWEET CLOVER FOR WINter sowing, reasonable. John Lewis, Madison, Kans.

FARM MACHINERY

FOR SALE—FARM MACHINERY—BARGAIN PRICES

(1) 30-60 Hart-Parr Kerosene Tractor.
(2) 18-35 H. P. Kerosene burning tractors.
(2) 40x50 inch Bean Hullers, practically new.
(1) 18x36 inch Case Grain Separator, practically new.
(1) 29x48 inch Money Maker Grain Separator.
(3) 2 row bean cultivators used 30 days.
(1) 1 row bean cultivator used 30 days.
(6) Blackhawk Bean Planters.
(1) Rumely steel water tank with trucks.
(1) Batavia Wood Water tank with trucks.
(1) Batavia Wood Water Tank without trucks.
(4) Steel Frame Bean Harvesters.
(2) 9x18 Header Barges.
(2) Four Gang Sattley Plows (new).
(2) Four Gang La Crosse Plows (new)
600 Fence Posts.
Pitchforks.
Hoes.
(1) 150-foot 8-inch 4-ply endless belt.
(4) 55 gallon iron barrels.
(1) Steel Cable.
(1) Milk Can.
(1) Large tent.
(1) Small tent.
Bedsteads, mattresses, springs, etc.
(1) Davenport.
(3) Presto Light Tanks.

E. E. SCOTT
1817 15th Street Denver, Colo.

Send for Calf Facts

DON'T feed milk to calves. Feeding high-priced human food to calves is *waste*. Mature calves early, big and healthy on Blatchford's Calf Meal at ¼ the cost of milk. The other ¾ is *clear profit* to you. Write for the facts today.

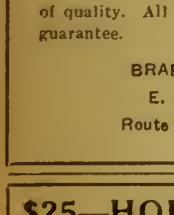
Blatchford's CALF MEAL

Write Today Send your name and address for pamphlet "How to Raise the Finest Calves on Little or no Milk". No obligation, it's free—write today.

Blatchford Calf Meal Co.
Dept. 4168 Waukegan, Illinois

STOP LOSING CALVES

You can **Stamp Abortion Out** OF YOUR HERD and **Keep It Out**



By the use of DR. DAVID ROBERTS' **"ANTI-ABORTION"**

Small Expense. Easily Applied. Sure Results. Used successfully for 30 years. Consult DR. DAVID ROBERTS about all animal ailments. Information free. Send for FREE copy of "The Cattle Specialist" with full information on Abortion in Cows.

DR. DAVID ROBERTS VETERINARY CO.
852 GRAND AVE., WAUKESHA, WIS.

THRIFTY HOLSTEIN-FREISIAN CALVES FOR SALE

Either sex. Practically pure bred from registered bulls and high-producing dams. $25.00 crated, f. o. b. Chanute, safe delivery guaranteed. Six registered bulls from 2 to 10 months old—these are beauties—$75.00 to $100.00. Also 30 registered Duroc Jersey pigs, either sex, 3 to 5 months old, $30.00.

MAGEE DAIRY FARM
Chanute, Kansas

DUROC JERSEYS

Big type February and March gilts, bred to prize-winning boar at State Fair. Boars and gilts of July farrow sired by same boar. They have size with plenty of quality. All stock sold on money-back guarantee.

BRAE SIDE FARM
E. D. Hardman
Route 1, Pueblo, Colo.

$25—HOLSTEINS—$25

Five weeks old, 15-16 pure, mostly white, $25 crated. Two months old, $35. Registered bulls two months old, best quality, $70. Two-year-old springers, $125. Cows crated, $150. Write us for car lots. Buy the best—it pays in the end. Dr. J. A. Roberts Stock Farms, Oconomowoc, Wis.

HOLSTEIN HEIFERS

One and two-year-olds, high grade, well marked, from heavy producers. Fifty head priced right for immediate sale. Write or come and see them.

W. C. KENYON & SONS
Holstein Stock Farms Box 39, Elgin, Ill.

Fitting Cattle for Show

(Continued from Page 17)

Inside of Ears.—All of the hair on the inside of the ears should be clipped. Do not cut the hair around the edges, but be sure and clip all that is on the inside.

The cattle may be shown with smooth coats or with the hair curled. Those animals that have the short hair will show to better advantage with a smooth coat, while those with hair long enough to comb nicely will snow better with their coats curled.

The hair should be curled regularly for several weeks before the show. If the hair is long enough to curl, it should be done after the animal has been thoroly brushed. Moisten the hair with a mixture of creosote dip and soap water. Do not get the hair completely soaked or the hair will appear in locks instead of loose. The hair on the center of the back should first be parted in one straight line from in front of the shoulder to the tail. Comb the hair on each side at right angles or straight from the center parting, out to the extreme edge of the flat portion of the back. Mark the animal with the comb from in front of the shoulder to the extreme back of the round. The lines should run parallel to the backbone and the first one usually 4 inches to 6 inches from the center of the back. The first line should be on the outer edge of the flat portion of the back, so the end of the hair will curl up even with the flat portion of the back and will make the back appear wide. The lines should be about one and one-fourth inches apart and parallel to the first line. After all of the lines are made the hair should be lightly brushed up or the brush should just catch the tips of the hair that was combed back in making the marks. This will leave the coat with the distinct lines as desired.

The Horns.—Smooth off the horns first with either a file, glass, or sandpaper to get off the roughest portion. Finish with fine emery paper or emery powder and then polish with chalk dust and water.

The Hoof.—The hoof must first be trimmed by tapering the bottom from the lower back points to the front, this leveling the hoof off properly. This can be done with a chisel or knife. The hoof should also be smoothed off and polished.

If the hair does not have a shiny, glossy finish, dampen a cloth with a mixture of olive oil and denaturel alcohol, half and half. Apply this lightly on the hair, following with your hand to give it the proper finish.

Showing the Animal in the Show Ring.—The animals should be trained to stand properly before they are brot to the fair or show. They should be regularly led into the yard, and held, head up, standing squarely on all four feet, so they will show up to the best advantage to the judge. This will require daily practice before the date of the show.

Prof. William M. Rider has recently accepted the appointment of Director of Extension Service of The Holstein-Friesian Association of America, and will be located at the secretary's office at Brattlehoro, Vermont. Prof. Rider, at the time of his appointment, was Professor of Animal Husbandry and Dairying at Syracuse University, Syracuse, N. Y., and has served in that capacity since 1915. Prof. Rider took up his work at Syracuse in the fall of 1913, and taught during the college year of 1913-14, also superintendening the University Farm. He was retained at Syracuse for the College year 1914-15, and during that period raised to full professorship, and occupied the summer of 1915 in work on a master's degree in dairying at the University of Wisconsin and Madison.

German Potato Bugs

"The way Germany prepared for a generation for this war was positively uncanny," said a congressman. "Yes, Germany's forty years of minute war preparation is as uncanny as the story of the potato-bugs.

"On an autumn evening a group of Minnesota farmers sat around the fire in the general store and complained of the potato bugs' ravages.

"'The pests ate my whole potato crop in two weeks,' said one farmer.

"'They ate my crop in two days,' said a second farmer, 'and then they roosted on the trees to see if I'd plant more.'

"A drummer for a seed house cleared his throat.

"'Gents, he said, 'all that's very remarkable. Let me tell you what I saw in our own store. I saw a couple of potato bugs examining the books about a week before planting time to see who had purchased seed."—Washington Star.

Your Live Stock Needs Help NOW

Keep your working and producing animals vigorous and healthy. This is the very foundation of stock profits. The changing season is a trying time for stock of all kinds. Protect your horses, cattle, sheep and swine. Prevent them from becoming diseased or "run down" by regularly using

Pratts Animal Regulator

The Original Guaranteed Stock Tonic and Conditioner

Not a food, but a scientific combination of medicinal herbs, roots, etc., a positive **health-builder and health-preserver.** It contains the natural tonics, appetizers, digestives, blood purifiers and worm-expellers needed to keep the entire system working smoothly and effectively.

Pratts Animal Regulator is used in such small quantities that the cost is practically nothing. But the results as measured in increased products, **in greater profits,** are amazing. Make a thorough test **at our risk.**

Our dealer in your town has instructions to supply you with Pratts Preparations under our square-deal guarantee—"Your money back if YOU are not satisfied"—the guarantee that has stood for nearly 50 years.

Write for big Stock Book—FREE

PRATT FOOD COMPANY
Philadelphia Chicago Toronto 575

Pratts

The Platte River Cattle Company

Denver, Colorado

Pure Bred Herefords, raised in Colorado. Bulls and bred heifers Good bone, colors and markings.

715 E. & C. Building Phone Main 3989

406 New Live Stock Exchange
Phone Champa 4793

HIGH CLASS JERSEYS AND DUROCS

The Western Home of the Majesty's

Do you notice the Majesty's are "going over the top" in all departments? I have recently added "Majesty's Feather Lad" to my herd. He is out of a daughter of old Royal Majesty, with a test of 712 lbs. butter, and a show cow, and sired by a grandson of Royal Majesty. He is fine individually, too. Where can you beat this breeding ? I have one or two splendid bull calves of Majesty breeding, and can spare a few heifers.

In Durocs, I have a couple of fine fall boars, sired by a son of Grand Model, at low prices.

Can spare a bred yearling sow and a few spring boars and gilts.

A. M. McCLENAHAN, Greeley, Colorado

DUROC-JERSEYS

We have the finest crop of Duroc-Jersey pigs that we have had in a number of years. They are sired by a son of Orion Cherry King, a grandson of Orion Cherry King, who is by a Grand Champion boar at National Swine Show two years ago, and by a boar of Golden Model breeding. We can give you as good a selection as can be gotten in the West. Write us your wants.

COLORADO AGRICULTURAL COLLEGE
Animal Husbandry Department Fort Collins, Colorado

MONTAIR DUROCS

Our March and July boars are by a son of Orion Cherry King, by a son of Orion Cherry King, Jr., and by two sons of Orion Cherry King Again. We have built our herd on this type and blood, which has taken highest honors at all three National Swine Shows. We can sell you a boar that will produce good barrows or a boar to head a show herd. GEO. E. MORTON & SON, Rt. 5, Box 84, Ft. Collins, Colo.

Raise Hares for Us

IMMENSE PROFITS easily and quickly made. We furnish stock and pay you $2.00 each and express charges when three months old. Contracts, booklet and full information 10c. Nothing free. Address

Dept. 24. THORSON RABBIT CO. Aurora, Colo

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I can show the buyer 288 imported and American Bred Percheron and Belgian draft stallions and mares. Will weigh at maturity and in fat condition 1600 to 2350 pounds. Prices, $450.00 and up. Also 396 young beef cattle consisting of Durham, Polled Angus, Galloway and Hereford calves and yearlings. Prices, $75.00 and up. Pedigrees with each one, also guarantees. Write to R. I. LITTLE, Good Block, Des Moines, Iowa.

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C. F. Burke, Manager,
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Cost and Depreciation of Farm Machinery

L. F. Garey

A GREAT deal has been said the past year regarding the great increase in the cost of farm machinery. This increase has been great and for repairs appears to have been unjust in many instances. The reasons for the increased cost, we are told, are war demands for steel and iron, increased cost of labor and materials necessary for the manufacture of farm ma-

Of several hundred farmers visited the past summer their almost unanimous cry was the great increase in the cost of farm machinery. There was no objection on the part of these men if it would help in winning the war ,but there was a feeling among many of them that undue profits were being reaped by someone along the line and that the government should take a hand in the regulation of these prices.

No doubt the high prices of repairs in many instances were due to the large number of different makes of machinery, making it almost impossible to get repairs for some makes of machines. War demands upon the material used for this part of the farm equipment no doubt has something to do with the increase, but whether the total increase is due entirely to the above-mentioned causes or not is another question.

The War Industries Board has launched a program to eliminate the manufacture of unessential types of implements, the purpose being to conserve iron and steel as well as labor. For example, the number of types of plows that are now being manufactured is to be reduced approximately 78%, corn planters and drills 96%, and harrows 60% after December 31, 1918. At the present time there are over 300 types of plows, 300 types of drills and planters and over 100 types of harrows being manufactured in the country. Other implements will be reduced in proportion. It looks like this would help solve the question of repairs, as the cessation of manufacturing certain makes will increase the repair supply for standard makes, making it possible for a man to get repairs as long as the implement may otherwise be in good condition.

Some figures, as to the increase in machinery costs, are given below. The percentage increase on the whole over 1917 prices has been only 20.16%. This does not take into consideration the increase in cost of repairs but is the retail price to the farmer. This percentage increase varies from 13% for the high wheels 10-disc drill to 61.5% for the four-row beet drill. Contrary to the general belief the most complicated machinery has not increased the most. Binders, both small grain and corn, increased 28.6%, headers 21.2% and mowers 40.7%.

Has this increase been in proportion to increase in price of farm products? The following table shows the increase in the price of farm products for 1917 over 1916:

Corn, 38.8% increase, Colorado farm price.
Oats, 26.6% increase, Colorado farm price.
Wheat, 28.7% increase, Colorado farm price.
Barley, 26.8% increase, Colorado farm price.
Rye, 39.0% increase, Colorado farm price.
Flax, 28.2% increase, Colorado farm price.
Potatoes, 25.2% decrease, Colorado farm price.
Beans, 27.8% increase, Colorado farm price.
Hay, 50.9% increase, Colorado farm price.
Peaches, 60.0% increase, Colorado price.
Apples, 14.9% decrease, Colorado farm price.
Cotton, 41.3% increase, U. S. farm price.

On the average the farmer received 32.4% more for the above crops in 1917 than he did in 1916, while for farm machinery he paid 20.16% more in 1918 than he did in 1917. The increase in machinery cost was more from 1917 to 1918 than it was from 1916 to 1917.

In 1916 it would require 111.1 bushels of corn, 66.6 bushels of wheat, 166.6 bushels of oats, 121.9 bushels of barley, 95.2 bushels of rye, 51.3 bushels of flax, 19.6 bushels of beans, 71.4 bushels of potatoes, 80 bushels of peaches, 106.4 bushels of apples, 9.09 tons of hay or 51 pounds of cotton to purchase $100 worth of farm implements.

In 1917, 111.1 bushels of corn would buy $138.75 worth of farm implements or allow for an increase of 38.7%; 66.6 bushels of wheat would buy $128.54 worth, or allow an increase of 28.5%; 166.6 bushels of oats, would buy $126.62 worth, or allow an increase of 26.6%; 95.2 bushels of rye would buy $138.99 worth, or allow an increase of 39%; 51.3 bushels of flax would buy $128.25 worth, or allow an increase of 28.2%; 19.6 bushels of beans would buy $127.79 worth, or allow an increase of 27.8%; 80 bushels of peaches would buy $160 worth, or allow an increase of 60%; 9.09 tons of hay would buy $150.89 worth, or allow an increase of 50.9%; 51 pounds of cotton would buy $141.27 worth, or allow an increase of 41.3%; potatoes would require a decrease of 25.2% and apples 14.9% for the relation in prices to farm machinery to remain the same.

Several factors enter into the depreciation of farm machinery, the chief ones being care and the amount of use they are put to. Altho the government allows 10% depreciation in figuring the income tax, over 400 estimates in Colorado this year show a depreciation of approximately 8%. The greatest per cent of depreciation is on headers, mowers and small drills. Grain binders depreciate 6.47% and corn binders 6.18%. Headers harvest on an average of 394 acres per year, while binders in the same sections harvest only 94 acres, which accounts for the difference in the rate of depreciation, showing that the amount of work done by an implement has much to do with the rate it depreciates or decreases in value. Beet pullers depreciate least, being only 4.08% for the riding and 4.76% for the walking. Disks depreciate 8.47%, corn planters, 11.26%, harrows 6.66%, plows 9.94%, listers 7.24%, hay rakes 7.42%, wagons 7.46%, and cultivators 8.72%. Beet drills depreciate 8.72%, yet the increase in price the past year has been 61.5%.

It appears that a standardization of farm implements would help to solve the question of high cost and inability to get repairs for farm machinery; a standardization in such a way that repairs for one make of six-foot mower would fit another make of the same size. Plows or other machinery could be standardized in the same way. This would increase competition among dealers, which in turn would reduce the number of types, thus enabling the farmer to buy his machinery cheaper and to get repairs when he needed them.

The Colt's First Winter

The first winter is one of the most important periods in a colt's life. The colt that goes into winter thin and in poor condition has less chance to winter well than the colt that enters winter quarters in good shape. Colts frequently lose bloom and flesh at weaning time. To avoid this is important. They should have learned to eat hay and grain before weaning time; also, to be separated from their mothers. A very satisfactory method of weaning is to let the colts nurse in the morning and take them away, not permitting them to see or hear their mothers until the ordeal is over. If they have learned to eat hay and grain they can be weaned and gain in weight during the time. Recently, colts weaned at the University of Missouri College of Agriculture, gained twenty pounds each during the week they were weaned. After weaning, a good bluegrass paddock surrounded by fences in which colts cannot injure themselves, plenty of good, fresh water and good grain, together with exercise and satisfactory shelter, should carry colts up to the time winter sets in in good condition. Care at this time frequently means the difference between good yearlings and inferior ones. If a colt is worth having he is worth taking care of.

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WESTERN Farm Life

Vol. XX Denver, Colorado, December 1, 1918 Semi-Monthly

Purebred Percheron Mares Pulling Disc Harrow

British officers believe that at least one million draft horses must be imported from America by Europe in the next five years. Rugged drafters weighing from 1,400 to 2,000 pounds are wanted, the preference being given to the heavier sorts. The animal casualties in the world war have been tremendous. No accurate figures are yet obtainable, but it is well known that war's necessities have made inroads upon animal draft power that can hardly be replaced in ten years. Any surplus of horses in America is not of the type and weight required for pulling power, or for breeding, either on our own or on European farms. Horse breeding must have state support in this country, along lines successfully followed in Europe, and as outlined in an article by Wayne Dinsmore, appearing in this issue. Legislative action is expected in several Western states at forthcoming sessions.

Send for Calf Facts

DON'T feed milk to calves. Feeding high-priced human food to calves is *waste*. Mature calves early, big and healthy on Blatchford's Calf Meal at ¼ the cost of milk. The other ¾ is *clear profit* to you. Write for the facts today.

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Write Today Send your name and address for pamphlet "How to Raise the Finest Calves on Little or no Milk". No obligation, it's free—write today.

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Banker on Farm Loan Law

In your issue of October 15 I have just read an editorial entitled "Attacking Rural Credits Law." I have not seen the statement issued by Mr. E. D. Chassell, secretary of the Farm Mortgage Bankers' Association of America, urging that the federal farm loan bonds be made taxable, but I wish to say that I think in replying to his statement, as you attempted to do, you overlooked one fundamental argument against his proposition, namely, that the taxation of federal farm loan bonds would be double taxation and therefore inequitable, unfair, and I believe, illegal.

In forming the federal farm loan act this point was very clearly in the minds of those who created the law and it was decided, very properly, I think, that as the farmer pays taxes on the land, the bonds, representing a part of the value of said land, should be non-taxable.

There is another reason which you hinted at in your editorial, namely, that these bonds should be made as popular as possible for the investing public by being made free from taxation in order that the farming business of the United States might be developed to the maximum through proper financing metbods and that the farmer be placed on an equality with all other business men in his ability to secure cheap money for the development of his property and the promotion of his business. This is the patriotic side as well as the sound business side of the proposition. There is every argument in favor of the federal farm loan bonds just as they stand today and no good argument that I have ever been able to discover to the contrary.

There is no good reason why you should make the statement "these money brokers may love their country a little, but they love the usurious interest more, and they love the farmer only when he borrows through them." This may be true in certain instances and as to certain brokers, but certainly not as to the great majority who are as patriotic and fairminded as any other class of citizens, therefore, wby raise unpleasant prejudices and ill-founded suspicions when it is not necessary?

I believe the farmers are having things their own way to a greater degree now than ever before and probably more so than any other class of business men, but it is time that they should have their inning, especially in view of the fact that their prosperity creates prosperity for others throughout the country.

I believe all thinking men are glad that the federal farm loan act is now in operation and giving material assistance to the farming business, and that there is no substantial sentiment throughout the country in favor of abandoning this progressive and beneficial law.—F. N. BRIGGS, President Intersate Trust Co., Denver.

What Is a Billion?

"No one, not even those men who have accustomed themselves to think in terms of millions, can form any exact conception of the magnitude expressed by a billion units.

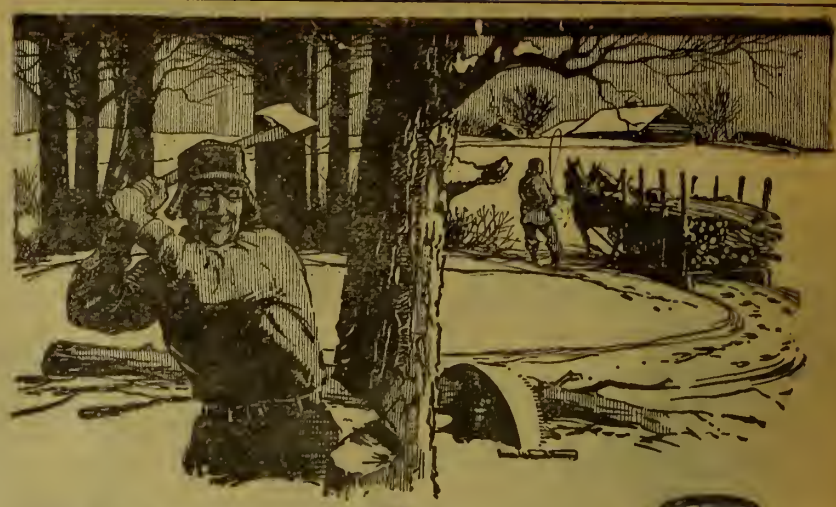
"To enable us to get before our minds some sort of a comparative comprehension of such a quantity," says C. F. Davis, of the Colorado Agricultural College, "the following statements may be of value.

"Ten billion silver dollars, if laid in a row touching one another, would reach from the earth to the moon.

"If at the moment of the birth of Christ, some one had laid aside one dime and this deposit had been continuously repeated at the rate of one dime each time the clock marked one second of time from that time until the close of the present year, 1918, there would be accumulated nearly the exact amount of our fourth Liberty loan, or six billion dollars.

"A recent estimate places the total population of the earth at approximately one and one-half billions. Our fourth Liberty loan, then amounts to very close to four dollars for each man, woman and child on the earth."

A ton of sugar cane has produced from 119 to 151 pounds of refined sugar in Louisiana in recent years. The sugar product of a ton of beets has been 210 to 285 pounds.



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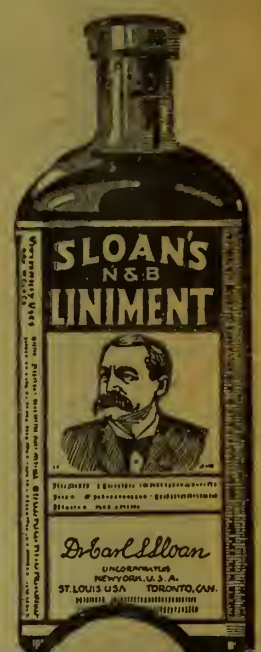

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American Farm Boy Writes of French Peasant Life

FRENCH COUNTRY GIRLS NOT ROMANTIC HEROINES OF SCREEN

FELIX J. KOCH

WHERE'S Brother Sam now, the last of the family to enter service?

Out in a delightful little country village in France (every one lives in villages in the farm-land of France, remember) and he is growing more enthusiastic each successive day, as he rusticates, so to say, there, far afield.

Soldier Sam (and he is typical of tens and hundreds of thousands of American, Canadian soldier, soldiers seeing service over there in France), is getting to know French country life from within as very, very few tourists, visiting Europe peace times, over and over, have ever had opportunity to know.

Billeted in the very homes of the peasant farmers, Sam becomes one with them, to share their joys and their

A French Peasant Girl

sorrows, to learn of crops planted and fields tilled and tended, and of harvests brought in, sent to market as the stranger to yeomanry can hope to learn of these things in really no other wise.

Just for example, here's an excerpt from a letter Sam writes home:

"Ste. Gervais, Sarthe, France.

"Fall has been arriving and has been making its coming known by the smells arising from the hemp.

"All the stagnant little pools we had noted all about on the farms, reminding of the quiet ponds within the rock-wall closures on the farms of our own Kentucky, are now filled with the sheaves of hemp. This is put here to soak and decay and then, smelling as unto heaven, it is laid out in the fields to dry.

"Being away out in the country, so to say, with the nearest city, Le Mans, quite so far away that one can visit only when on a pass of some period, the only new event of real interest, aside from actual soldiering, is our contriving with the farmers hereabouts for the acquisition of a pig, a really beautiful French pig. With Thanksgiving beginning to loom on the horizon, the company has induced a farmer to part with a pig, for consideration, said porker to be fattened for that festive day. French pigs, somehow, are cleaner, or at least look cleaner, than ours do, and again, have abnormally long ears. The little stranger is now housed in our corral and is already being very generally regarded as a friend with whom one shares all he can.

"By the same post I am sending some of the charming embroidery the peasant women do off hours, in their homes, a sort of doily (or it could be used for pillow-cover) which is typical and yet so very different from the quiltings and other forms of home needlework we find in our own farms at home."

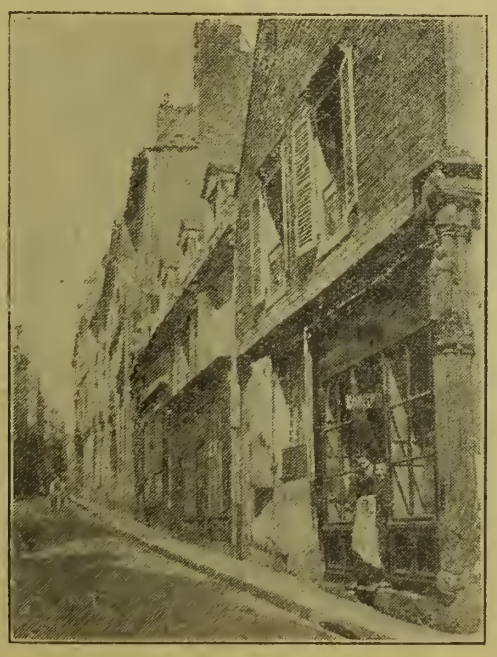
It is just a vignette, a peep into Sam's own especial form of country life, far over seas there, but it interests, none the less.

Even more so is the picture of French farm life, from within, which Sam sends from the same town in a subsequent note.

". . . It has turned colder with October," he writes, "and it is almost like winter here. Last night, with the cold wind blowing in, we were, in fact, decidedly glad that the Demenceau family, our billetors, had moved out the house proper (removing to their beloved Compiegne, from which the allies have expelled the boche) and that we might move into the real farm dwelling rooms in a day or two ourselves.

"Today I rode out to the Bousard farm and got the key to the residence, and this afternoon several of our fusiliers, as they're called, were busy cleaning it out, so that I hope that by tomorrow, at least, we will be able to ensconce ourselves in a real, high-grade French farm home. I don't know for how long this luxury will be mine, however, for, from the present looks of things, I may move up here, at town-heart to Battalion Headquarters, where I shall be a little nearer to my work.

" "It seems a little odd without the Demenceaus in the billet. The children were usually playing around, typical, little French country tads, and madam was ubiquitous. By this time, I presume, they are safely back in their dear Compiegne, and madame is walking her thirteen kilometers a day, delivering the letters to the French soldiers located in the country, and who, according to her statement, oft' repeated, are 'pas bonne' (not nice) to a lady under the circumstances. Meanwhile the meek Gustave, her husband, is doubtless riding his bicycle and also executing rural delivery in such wise.



Street of Village Where American Farmer Boys Are Billeted

"We shall also miss Madam Mulliet, or 'Bangs,' as the men call her, for the way she wore her hair, who was a regular visitor to the billet. The good French country folk, you know, have not been slow in making first calls on their American guests. She was one of the few good-looking country women of the locality, and did not look at all like the mother of the two impish children that were generally tagging at her skirts.

"Madame has a husband, tucked away somewhere in Paris, which doesn't bother her much. He appears about once a month or so, a rat-like, little man, who looks like an apache.

"In fact, as a rule, the chicness of the French women, if to be judged by the country folk, is not all that it is cracked up to be. Perhaps it exists in the big cities, but back here in the country the peasant lasses do not at all come up to the standard that romantic fiction has set for them. Dainty, certainly, they are not.

"Most of the farmers' daughters are sturdy female Hercules, who work in the fields all day and live in the upstairs of cow stables for a very large part, and who really look the part. They appear to be much older than they actually are and seem to mature much earlier than do the women at home. A girl of fifteen here seems far older, indeed, than would an American young woman of twenty.

"They walk to field with a stiff, swinging, masculine stride, and would, at times, seem almost ludicrous, were they not so uniquely astonishing. Their sense of proprieties is French, in all that the word implies. They will talk to you, in the most matter of fact way, and in fullest details, of things that would never be mentioned at home. Yet, on the other hand, they will consider little things that we deem perfectly proper as not so at all. Almost all are most careful of appearances, especially when in the town proper.

"I remember one moonlight night of the past summer, when one of these sturdy young ladies, with whom I was promenading, told me that the town was very straight-laced and that if once gossip got started it might ruin her chance of securing a husband forever. She discussed securing a husband in much the same manner as American girls generally "buzz' over the purchase of a new winter hat.

"They certainly differ a lot from the goose girls and the peasant maids of France of the novels and the motion pictures. They certainly aren't romantic, at least not in the scenario writer's way.

"In a story, on the stage, or on the movie screen, if a French country lass saw you coming and wished to attract your notice, she would perhaps accidentally drop a rose.. One of these Amazons, wanting a word with you, will pick up a rock, or a clod of mud the size of your head, and playfully whale it at you! It takes not alone a sense of humor, but good ability to dodge, often, to escape their friendliness unscathed.

"Have been riding about on my work on the bicycle I have here.

"It is quite cozy tonight in the billet, for we have a cracking wood fire

Long-eared French Pigs

in the old French grate, with its head of Napoleon at the center of the arch, and its irons. The orderlies have left with their various reports for the night, and Sergeant Major O—— and I have the place to ourselves. No news of things doing out here in the country, and so matters to talk of are slight and really rare.

"Today, though, there was another peasant's funeral in the little country town, and through my window I could see the simple, little funeral cortege enter the church with the priest chanting prayers at front, the women dressed in black and wearing the small white Puritan caps behind, each woman bearing a taper, and then the casket and immediate mourners."

Such, then, some of Soldier Sam's impressions of the day's work and play, the pleasures and sorrows of our good Gallic allies of the country.

They're not the stories of battles, victories, truces, things of that sort, very true, but Soldier Sam, once come home and asked to tell of his days at the war, is apt to revert to them with really the keenest pleasure, recount the little incidents of this country billeting over and over, times without end.

Farmers Congress Postponed

The Colorado Congress of Farmers and Farm Women has been indefinitely postponed, due to influenza. This action was taken after a canvass of the situation, it being the opinion of the executive committee, as well as of the Agricultural college authorities, that postponement would be wise. If it is later decided to hold a session during the winter, announcement will be made in due time.

Fighting Preventable Crop Losses

NATURE OF WEEDS; HOW INTRODUCED AND SPREAD

The Poverty Weed Travels Underground by Means of Root Stocks. This Class of Weeds is the most Difficult to Control.

Weeds are causing a loss of $4,000,000 a year to the farmers of Colorado.

Plant diseases in 1917 took toll to the amount of $8,000,000 on the farms of this state.

These estimates show how necessary it is to study the subjects of weed eradication and pure seed. If you failed to read and save the article by Prof. Robbins in the issue of November 1st on Weed Losses drop us a line and we will mail you another copy. The second article of the series appears on this page. It will be worth money to farmers who adopt the suggestions which are to follow as to weed eradication. An understanding of the growth habits of the most pernicious and persistent weed plants is essential to an intelligent application of methods of extermination. In the present article readers will find this essential information. There is appended to the article a table showing the losses from plant diseases. Pure seed is at the foundation of both the disease and the weed problem. Plant diseases and weeds are no respecters of land values; they hit the irrigated and the non-irrigated farm alike. They have respect only for careful farming.—Editor.

W. W. ROBBINS

IT is quite certain that everyone knows what a "weed" is. Probably no one of us has had the term defined, but our conception of its meaning is very clear. It may be that at one time in our early days we were told to pull the weeds in the corn field, in the garden; to mow the weeds along the fence, and at such a time I am positive that no words of explanation were needed to indicate which the weeds were. We have come to consider those plants which tend to grow where they are not desired as "weeds"; plants which tend to resist man's efforts to subdue them; plants which resist frost, heat, dryness; which will grow in most any kind of soil and under all conditions; plants which produce seeds in enormous numbers and have other rapid methods of propagation; plants which are in themselves sometimes truly beautiful, have for us lost their charm; but are plants useless and troublesome. Emerson said of a weed: "A plant whose virtues have not yet been discovered." Of course, that statement is not literally true, for some weeds have no virtues, but I am sure no one would say that they are unsuccessful in the struggle for existence.

There are many thousands of flowering plants growing in the world, and yet, of this great number, only a few are weeds. What are the peculiar characters of weeds? What causes a plant to become a weed? A plant becomes a weed because of certain qualifications which enable it to compete favorably with crop plants and to undergo adverse environmental conditions.

Enormous Seed Production.

Many weeds produce an enormous number of seeds. A large purslane plant will produce 1,250,000 seeds; a single Russian thistle plant will ripen 100,000 to 200,000 seeds; tumbling mustard, 1,500,000 seeds; shepherd's purse, 50,000.

Not only do weeds produce seeds in tremendous numbers, but seeds with an ability to live a long time. The seeds of some weeds, when buried in the soil, may retain their power to germinate 15 to 30 years. Such is true of the seeds of tall pigweed, black mustard, shepherd's purse, dock, yellow foxtail, chickweed and others.

Vital Weed Seeds at Different Depths

Investigations have been made at the seed laboratory, Ottawa, relative to the prevalence of weed seeds in farm lands. The following table from the 1914 report of the seed commissioner of the Canadian Department of Agriculture refers to samples of soil which came from sod land:

Depth of samples.	Average No. vital noxious seeds in 20 ozs.	Average No. vital seeds of all kinds in 20 ozs.	Average No. vital seeds of all kinds in piece of land 1 yd. sq. by 1 in. thick.
1st inch...	2.2	24.4	1106.7
2-3 inches..	2.4	10.2	456.5
5-7 inches..	0.9	7.3	331.4

A number of weed seeds exhibit dormancy. That is, all the seeds of a given crop of seed do not germinate the first year, but a number rest over a varying length of time. This has been given popular expression in the following statement: "One year of seed gives seven years of weeds." The seeds of wild oats seldom germinate the year produced. The same holds true of many seeds of tall pigweed, cocklebur and others.

There is a notion prevalent that wheat turns to chess, for it is frequently noticed that the weed comes in where perfectly clean seed has been sown. This is due to the fact that chess seed retains its vitality in the soil for a long period. The soil may have been infected with chess weed a number of years previous to its first appearance in the field, the condition at the time being unfavorable to its germination.

The seeds of many weeds are very small, and escape notice. A pound of clover dodder has 1,814,360 seeds; a pound of common plantain, 1,814,360 seeds; lamb's quarters, 604,786 seeds; Russian thistle, 266,817 seeds; wild mustard, 215,995 seeds; wild oats, 25,493 seeds. If 60 pounds of wheat are planted to the acre, and this wheat has 2 per cent of wild mustard seed, there will be distributed over that acre 388,791 mustard seeds, or 9 seeds in every square foot.

Some weed seeds resemble crop seeds which they frequent. Dodder seeds, for example, resemble those of alfalfa, and a sample which "looks clean" may be heavily infested with this pernicious weed. While it is possible to remove small-seeded alfalfa dodder and field dodder from alfalfa by means of mills or hand sieves, no process for the removal of large-seeded dodder has been perfected.

Weeds as a class are able to resist diseases and insect pests. They also have the ability to withstand shading, excessive drouth, temperature extremes, and other unfavorable conditions.

Underground Stem Plants

Of all weedy plants, the worst are those with underground stems or rootstocks, which live over from year to year in the soil, and enable the plant to spread rapidly in all directions underground. These underground stems store up food, and, although the plant it cut off above ground, new stems are sent up directly from below. Weeds with rootstocks are particularly difficult to eradicate. Well-known examples of such weeds are poverty weed, fireweed or blue weed, Canada thistle and wild morning glory or bindweed.

Many plants are of a weedy nature because of their excellent means of seed dispersal. It would take pages to describe adequately the many contrivances which weeds have of distributing their seeds. Some seeds, like those of the thistle, milkweed, sow thistle, wild lettuce and dandelion, are provided with a cottony growth which enables them to take long aerial journeys. Most seeds will float on water and consequently, are carried by irrigation waters. A number of seeds are provided with hooked prickles or barbs by which they attach themselves to the clothing of man or the hair of animals, and are thus carried from place to place.

Many weeds have a disagreeable taste or odor, or bear prickles, so that animals pass them by. Hence, they occupy the ground and multiply. Examples of such weeds are milkweed, gumweed, buffalo bur, dog fennel, wild lettuce and ragweed.

Thus, it is seen that a weed is a plant with one or more characters which permit it to compete favorably with other plants in the struggle for existence. Sometimes it is one character, sometimes another, and again we may find a plant with a combination of weed characters. A plant that is a weed in one part of the country may be harmless under the conditions prevailing in another.

Weeds Travel Rapidly

Weeds travel rapidly from one part of the country to another, and from one farm to another. It has been the history of nearly all agricultural communities that weeds increase in abundance and variety, unless concerted action is taken to combat them. Almost every year sees the first appearance of some new weed in a community, and usually in a few years it is prevalent.

Consider Russian thistle, for example. The plant first attracted notice in Colorado in the fall of 1892, at Denver, LaSalle and Longmont, where it was found along railroad tracks. It is said to have been introduced into Morgan county by a colony of Russians, who brought it as an impurity in seed. Since 1892 the plant has spread throughout the agricultural sections of the West, and in some localities it is a serious menace. In fact, some sections are being abandoned on account of the Russian thistle. Russian thistle seeds are now a common impurity of crop seeds. The entire plant may break off at the ground line, become a "tumble weed," and be blown for miles across the open country, distributing its seeds as it tumbles along.

Impure Commercial Seeds

There is probably no other means of introducing weeds so effectively as the sale and distribution of impure commercial seeds. Sample after sample of seed is submitted to the Colorado Seed Laboratory in which weed seeds occur. The first 307 samples of commercial seed sent in contained altogether 81 different kinds of weed seed. The samples come from farmers and seedmen alike.

Seeds are also carried in screenings, baled hay, the packing about trees and in feed stuffs. Some seeds are uninjured in passing through the digestive tracts of animals and, consequently, are spread on the fields in manure. The use of feeding stuffs containing live seeds may result in the spread of noxious weeds. Canada has a law which says that bran, shorts or middlings and chop-feed "must be free from vital seeds of any of the noxious weeds defined by the Governor in Council under 'The Seed Control Act.'"

Seeds are often carried in the hair or wool, or on the feet of livestock. A threshing machine may carry weed seed from farm to farm. Some weeds are dragged by plows, cultivators and harrows from one part of a field to another and even to adjacent farms. This is true of those perennial weeds with underground stems, which are cut up into pieces by cultivating implements.

Irrigation Ditches Carry Weeds

Wind is a most important agent in weed dissemination, carrying seeds, and in some instances whole plants, long distances. In the irrigated sections, water is one of the chief means of spreading seeds. Ditch banks are densely overgrown with weeds, which shed their seeds in the water, and these are carried down stream, given a good soaking in transit and planted on a well-soaked soil—all conditions being ideal for germination.

Birds may be responsible for the distribution of weed seeds. However, birds undoubtedly do more good in eating weed seeds than harm in distributing them.

The accompanying table shows the estimated loss in bushels or tons, as well as money, suffered through plant diseases in Colorado for the crop season of 1917. These figures are based on a careful survey made by the Agricultural college, through the county agents.

ESTIMATED REDUCTION IN YIELD OF STAPLE CROPS DUE TO PLANT DISEASES IN COLORADO IN 1917 AND CONSEQUENT MONEY LOSS FIGURED AT AVERAGE FARM PRICES

Crop	Production (bushels)	Disease	Losses Percentage	Losses Bushels
Wheat	13,634,061	Bunt	6.0	899,543
		Loose Smut	.25	37,481
		Rusts	2.0	299,848
		Other Diseases	.8	119,787
Money loss on wheat at $2.00 per bu., $2,713,318.00.			9.05	1,356,659
Oats	11,578,586	Smuts	6.0	755,125
		Rusts	1.5	188,780
		Other Diseases	0.5	62,928
Money loss on oats at 90c per bu., $906,149.70.			8.0	1,006,833
Rye	684,213	Smut	0.1	685
		Rusts	0.1	685
		Other Diseases	0.1	685
Money loss on rye at $1.54 per bu., $3,164.70.			0.3	2,055
Barley	5,380,126	Smuts	4.0	228,941
		Other Diseases	2.0	114,471
Money loss on barley at $1.00 per bu., $343,412.00.				343,412
Corn	10,742,376	Smuts	5.0	568,380
		Other Diseases	0.5	56,844
Money loss on corn at $1.60 per bu., $1,000,358.40.			5.5	625,224
Potatoes	11,327,277	Rhizoctonia	2.50	309,487
		Fusarium Wilt	4.00	495,182
		Other Diseases	2.00	247.591
Money loss on potatoes at 85c per bu., $894,421.00			8.50	1,052,260
Alfalfa	1,804,178 (tons)	Stem Blight	3.0	56,865
		Leaf Spot	1.0	18,955
Money loss on alfalfa at $18 per ton, $1,418,760.00.			4.0	78,820 tons
Beans	1,897,706	Blight	2.0	39,537
		Anthracnose	1.0	19,767
		Other Diseases	1.0	19,767
Money loss on beans at 6c per lb., $284,655.60.			4.0	79,071
Sugar Beets	1,801,580 (tons)	Leaf Spots	0.5	9,287
		Rhizoctonia	0.5	9,287
		Nematode	2.0	37,146
Money loss on beets at $10 per ton, $557,200.00.			3.0	55,720 tons

Total estimated loss on all crops, $8,121,439.40.

Three of a Kind

Ranchman Made Money With Horses

GOOD PROFITS TO BE MADE IN HEAVY DRAFTERS

PETER WAGNER

Peter Wagner is a Montana ranchman who has had experience in raising horses in the West that will prove valuable to all farmers. Just at this time, when some farmers have become a bit discouraged because they could not sell horses just when they wanted to dispose of them, it will be helpful to read Mr. Wagner's comment, based on many years of experience in producing and selling good draft animals. We are letting him tell the story just as he gave it to Wayne Dinsmore, secretary of the Percheron Society of America.—Editor.

GOOD draft horses, especially good Percherons, are the best buy a farmer or ranchman can make right now. We are short on feed, and I have no more than I absolutely need to carry through the horses and cattle I now have; but if I had the feed available, or could purchase it, I should buy a thousand head of the best young draft horses I could get.

What wealth I have obtained has been by going contrary to the road most men follow. In 1893, when no one wanted horses, I went into Southern Iowa and bought seven carloads of good grade Percheron mares. I did not buy any that weighed less than 1,600 pounds, and they were good, clean, well-shaped mares. I paid from $50 to $90 per head for them, and they cost me an average of $65 per head on the farms where I bought them. The same kind of mares are today bringing from $175 to $225 per head, yet farmers are now grumbling about low prices. They don't know what low prices are.

I shipped these mares to Tyndall, South Dakota, and sold them at approximately $400 per pair. In nearly every case I had to take small horses in as part of the purchase price, but I got money enough to boot to pay the original cost of the big mares, leave me a profit, and I had the plugs left over. I then shipped all these plugs up to the northwestern corner of the state, where the farmers lacked horses and money, and sold them on time. Practically every man paid up eventually, so that I cleared some money for my work.

About the time that I distributed these seven carloads of mares around Tyndall, and took their inferior horses away, an Illinois horseman traded several good Percheron stallions to men in that locality. He took land for these stallions and sent some very good horses into the neighborhood.

The resulting improvement in the horses of that vicinity was almost beyond belief. I was back there about fifteen years afterward, and in walking down the street one Saturday afternoon I remarked to Dr. Hamlin of Tyndall, that I had never seen so many good, big, grade Percheron teams in any locality. He told me then that the improvement dated back to 1893, when I brought in seven carloads of good mares, and the good sires were brought in. He also said that horse buyers came to Tyndall from all parts of the United States, and that single geldings had been sold direct from the plow for prices as high as $425 per head.

History repeats itself. Today foreign countries are almost stripped of horses suitable for farm work. All European countries will want horses as soon as ships are available to take them over. Good, big drafters are bringing from $800 to $1,000 apiece in Great Britain, and in France, $600 is the lowest price for even a common-sized chunk. The American consul's report from Stockholm, Sweden, in August, states that the German military commission had recently bought 250 horses at 3,400 crowns each, Swedish money, which means that they paid $1,740.21 per head for them.

The United States is the only nation with any surplus of big horses. I know Russia does not have them, for I lived there for twenty-one years and know Russia as only a native of that country can.

Some men fear the influence of the tractor on the horse market. As a practical farmer, with long years of experience in the West, I know they will not displace the horse. Don't fret about them. While my chief interests have been in cattle, I have sold $27,000 worth of horses off the range since 1911; have twice as many horses left as I ever had, and my horses have made me more clear profit, proportionately to numbers, than my cattle.

My advice to my friends is to get rid of their inferior horses and to put in all the good ones they can handle now. Don't sacrifice a single good drafter, and go in debt, if necessary, to put your teams on a first-class basis now while horses are relatively cheap.

The time to buy is when the average man is discouraged and wants to sell. You can never go wrong on that plan.

State Aid for Horse Breeding

Wayne Dinsmore, Secretary of the Percheron Society of America.

More than one million horses and a third of a million mules have been furnished to the allied armies since war began. The United States, in addition has bought a third of a million more.

Veteran army officers declare horses and mules are indispensable in war. An adequate supply is vital to the military protection of any nation. Experience has shown the need of one horse or mule to every four men in service.

America's whole agricultural system, which has stood the test of war so splendidly, has been built on maximum use of machinery and horse power. Plowing, discing, harrowing, seeding, cultivating, hay harvest, grain harvest are all handled with the minimum of manual labor and maximum use of horse power. Tractors are supplementing our horses in this work, but the wide fluctuation in the amount of power needed in these different operations, soft terrain, and need for intelligence which will give what is practically self-guidance in many operations, make good horses the solid foundations on which our farm operations rest, and this will so continue.

The maintenance of an adequate horse supply is therefore one of our fundamental needs, both from the standpoint of food production and national defense.

How this may be carried out is our problem. High priced grain, hogs and cattle, have created profound disturbances in our usual agricultural practices. Our supply of horses, such as it was, was sufficient for our needs for the past four years, and the great curtailment in horse breeding which all experienced men know has taken place has not yet affected our agricultural or military effectiveness. It is admitted, however, that it will do so if effective measures to encourage the breeding of good horses be not taken.

The key to the situation lies in the use of good sires. These cost too much to individual farmers to own. Eight mares is the average owned on a good 200-acre farm. On stallion, worthy of service, should have 100 mares per season. To keep a stallion for use on the mares on a single farm is wasteful, as he can and should be available for the use of 12 or 15 farms. Farmers themselves cannot take time from their own operations to travel a sire, and as it is not profitable to a man to own an travel one sire for public service, particularly if he is a good one, we are rapidly reaching a point where men who have good mares have no good sires available.

The same situation has before this arisen in other countries. France meets it by granting government subsidies to sires of approved stamp, thereby designating them as suitable for reproductive purposes, and adding enough to the earnings of a sire to justify men in owning 15 or 20 stallions, which were maintained and traveled in localities desiring their services. This system has been in use in France for more than 100 years and has given admirable results. Belgium has had a somewhat similar plan in force for 50 years, with the added proviso that the amount of the goevernment subsidy increased each year if the horse was kept in use in one locality for three years or more. This gave to little Belgium a race of horses famous throughout the world—which the greatest horsethief the world has ever known took to Germany to build up his own horse stocks.

Great Britain has had similar measures in force for some years, and Canada, with a similar plan in use for two years past, finds it very successful.

State aid is needed to maintain an adequate supply of horses. It must come in the form of a state subsidy to approved sires. It can be administered through our stallion boards and it will bring back in added wealth to the state 100 dollars for every dollar expended. It must be state, rather than federal aid, for there are only about 20 states that produce a surplus of horses. These supply other states and foreign countries. As they benefit directly through the added wealth coming within their borders, which goes to the farmers, and through them to the business men in every other walk of life, it is strictly a state limited enterprise. The details of it will be worked out along lines already found successful in other countries. In substance, however, it will provide for an expenditure of about $50,000 per year, which shall be used to pay 20 per cent of the service fee of approved sires providing:

1st. That the farmers in any given locality first organize a club, with legal responsibility, guaranteeing 100 breeding mares.

2d. That they arrange for the lease of a pure-bred sire which must pass the approval of a special committee named by the stallion board, before said lease is valid.

3d. That the service fee shall be $25 per mare, 20 per cent of which shall be paid to the club by the state.

4th. That only 100 approved sires shall be granted a subsidy during the first four years the act is in force, and not more than three of these in any one county.

These are the main details. The essential point I make is that we have now reached a point, long since reached in older countries, where we must have state aid to maintain an adequate horse supply, and that such aid is justified by precedent, experience, and financial returns accruing to the states granting such assistance.

Picking Everbearing Strawberries In November

ONE-FOURTH ACRE BRINGS IN A THOUSAND DOLLARS

PROGRESSIVE everbearing strawberries seem to adapt themselves very easily to the climatic conditions in the mountain states. The accompanying illustration shows a picking scene on the farm of Mr. J. L. Salladay, near Arvada, Colorado (altitude 5,400 feet). The photo from which this cut was made was taken on November 1st of the present year, after the strawberries had been hit by two killing frosts. The last frost took the temperature down to 26 degrees, and while the ripe berries were damaged, the plants continued to blossom and were still laden with green berries when the writer visited the patch.

Strawberry shortcake on the first of November under Colorado conditions is, to say the least, unusual. However, that was the dessert course in a family dinner at the Salladay home on the date mentioned. This dinner, by the way, indicates what can be done by intensive methods on a 10-acre tract in the Clear Creek valley. Everything served was grown on the place except the tea, sugar and liberty bread. One of the choice dishes was home made full cream cheese which Mrs. Salladay made according to directions given in an article by G. H. Thompson, an Estes Park farmer, in Western Farm Life some months ago. Mr. Thompson also gave full description of a home made cheese press in that article. Mrs. Salladay followed directions, constructing her own cheese press and making 51 pounds of fine full cream cheese from Jersey milk.

Picking Everbearing Strawberries in the Clear Creek Valley, November 1st

Mr. Salladay was one of the pioneer everbearing strawberry growers of the valley. A patch of less than one-quarter acre keeps him busy. From this small tract he sold this year 75,000 plants and $600 worth of strawberries—over $1,000 income from that source alone. He supplied practically all of the plants which have been used during the last two years by Western Farm Life as a subscription premium, and is, therefore, responsible for spreading the culture of everbearing strawberries throughout the states of Colorado, New Mexico, Wyoming, Utah and Idaho.

He started four years ago with one dozen plants, from which he had 800 plants the following spring. The enormous quantity he has sold have all been propagated from the original dozen which came from Henry Field at Shenandoah, Iowa.

The everbearing strawberry has a habit of setting on fruit much earlier in the spring than other varieties, but as soon as hot weather comes it stops fruiting, setting on again after the middle of July and doing its best work during the cool days of August, September and October. They bear heavily until a good freeze stops them, and

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Do Farmers Want Regulation?

DISCUSSION OF QUESTION BY A FARMER

JOHN GRATTAN

The views here presented are those of a Colorado farmer who has long been classed as a radical thinker. He is a member of the Agricultural Advisory Board, comprising farmers who have been consulted by the Food Administration and the Department of Agriculture on price fixing and other agricultural war problems. Mr. Grattan has often rubbed monopoly the wrong way. not from any inherent antagonism to organized corporate wealth and efficiency, but because he has been quick to detect injustice and to speak for the farmer as the under dog. Rubbing elbows in frequent conferences with the captains of the packing industry and other distributors of farm products. and with that genius among organizers. Herbert C. Hoover, Mr. Grattan has come to some interesting conclusions regarding the future course of farming. He scents danger in "too much government."—Editor.

WHEN a nation becomes involved in war and all of the energies of the people must be centered in one direction, it is necessary that government assume many functions that would be questionable as to their advisability in times of peace. The far reaching activities of the food administration and the department of agriculture has demonstrated that food can be conserved and production increased when stimulated by a patriotic desire of the people. The railroad administration has likewise demonstrated the possibility of greater efficiency under centralized management of the railroads. On the whole these agencies have not worked to the personal advantage of the farming class, but against us, as we have had the extra freight to pay, and the normal price of our products would have been much higher had regulation not taken place.

In order to feed the world, and in order to protect the city consumer, it has been necessary that the American farmer take less for his products; that he put in longer hours, and that the women and children go into the fields to work. This we have done usually without complaint as a patriotic duty.

Few people understand the farmer's position in life. The farmers who can explain it are very scarce and usually tied to the details of the farm. The man who has not the life contact with the farm and some knowledge of other life, however sincere he may be, will lack in certain qualifications.

The experiences of the war will doubtless result in a greater study of these questions and we hope a better solution to some of them. We have found that one part of the world cannot well live without the rest of us. This calls for brotherhood, and correct information. If city people could be taught the view point of the farmer and could know the real farm life, not the poetic, or imaginative, or real estate construction, the most basic foundation would be laid for a better agriculture and a better world.

The food administration has been able to do certain things only because of their tremendous buying powers. No one could have controlled the price of wheat except that the government became the buyers of wheat for the allies, thus making them the largest purchasers of wheat in the world. They could only say what they would pay for wheat. Under a license system they are able to control profits of dealers to a certain extent, as to their reasonableness.

The wheat market is a world market and probably no such an arrangement as now in force could be effected under peace conditions. At least it would take combined action of all the leading governments of the world.

The food administration, with all their power, have found that in some instances they were very weak as compared to the natural laws of supply and demand, and while I do not wish to quote any one, I believe some of those in highest authority want to get away from so much government just as fast as possible.

Mr. Hoover has done a wonderful work. He has been severely criticised, and has made some mistakes. Many of our best farm economists did not believe he could do as well as he has. When all else failed his sincerity of urpose and his patriotism brought him through.

He is a farm-raised boy, plain in manner and practical in thought, with a wonderful grasp of all phases of life. We who have worked with him have learned to love him.

What of the future? Shall we retain him, or his policies? The writer is not in favor of so much government as he was some years ago. As a principle we stand for simplification of government and elimination of politics. Generally the economic laws are the supreme laws. They allow so much initiative and opportunity for development. They are so much bigger and broader than government can be, and like the natural laws, they are so dangerous to tamper with. When the economic laws are interfered with, as is sometimes the case with big business, then it becomes the duty of government to do the things which are the best for the people.

The government may direct accurate information. It may stimulate certain weakening functions of life, more as to basic principles, always mindful of the natural economic laws, without so greatly enlarging its functions as to become cumbersome and wasteful, and possibly at times doing the wrong thing, 2for which so many have to suffer.

The American farmer, above all classes, should stand for the natural economic laws. The market for his principal products is a world market. This market is beyond the influence of legislation, and on an equal footing the American farmer can out-produce any other farmer. The interference of government, while it could not reach the farmer on his principal products, could reach the cost of his production, and place him at a great disadvantage with his competitors from other parts of the world.

The American farmer can easily take care of himself and can rise to the highest position of which he is worthy, if the government will only keep the other fellow from obstructing the road.

That there are obstructions such as pools, combines, and unfair or tricky practices is the conviction of the farmer, and the solution of these questions is a job for a statesman and business man and not a politician.

One of the great questions before us and with which the food administration and department of agriculture has had much experience is that of making the meat packing industry of greater value to the American people. No one knows just what should be done. Many judgments have been formed which may form a basis from which to start, but no one knows how anything will work out until it has been tried. It may take a good deal of government to handle this industry, or a very little government properly directed may bring about forces which of themselves will correct the evils.

A big thing is not necessarily bad. It may be much more efficient than as though it were smaller. If all of the farms of the country were in the hands of people who were so inefficient that they only produced enough for their own consumption, then the rest of the world would have the right to take these farms and put some one on them who could grow some food for other people. This principle applies to all of the businesses, big and little. All of the people have the right to require that efficiency be used in handling packing plants, railroads, political jobs, or any business. One man must not stand in the way of someone who can do the job better.

Government, besides furnishing truths, can better do big things than little ones. The biggest things are done by the natural economic laws, the next biggest things are to be done by government utilizing these laws, and the next biggest things by individuals and corporations, working honestly according to law.

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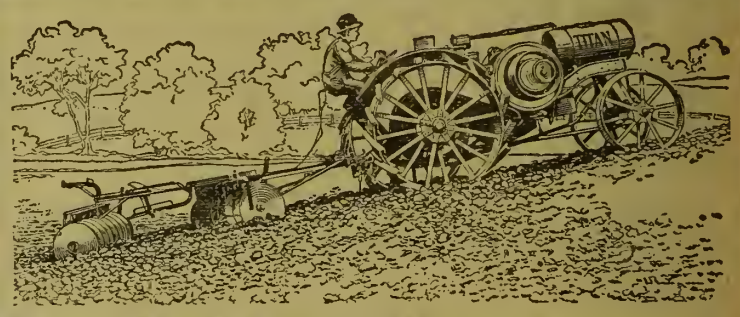

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"Our men are not fighting for money, spoils, glory or for any human idol, but for a great principle, and fighting with such determination and confidence of final victory that nothing can stop them."

These are the words of Major Henry L. Larsen of Littleton, Colo., who was graduated from the high school in that little country town and at twenty-six years of age has attained the rank of major in the marines, because of conspicuous bravery and initiative on the

Major Henry J. Larsen

field of battle. In the fighting at Balleau Woods he led his marines in a victorious charge that routed the enemy. Since that fateful July day when Marshall Foch declared that the Huns had gone far enough toward Paris the American marines have been in the front line. The young Colorado officer has had his share of it and it has given him opportunity to analyze the motives of the American fighting men and to write about them to his friends on this side with a clarity of vision that comes only to those who have dared everything for the sake of right.

Major Larsen enlisted in the United States Marines five years ago and after a short course of training was commissioned a second lieutenant. He saw active service during the Mexican border troubles and in Santo Domingo and Haiti, entering the European war as a captain and being among the first to reach the western front. As an old friend and former neighbor of the family of ex-Governor Ammons, he has been writing to Miss Elizabeth Ammons, giving intimate glimpses of the world conflict. That his heart is with the men under his command and that he knows they are inspired by high ideals; that they pray to God and fight like they pray is plain from reading this letter which he wrote just a month before the Hun threw up his hands:

SINCE September the first we have lived in the open woods and been on the move almost constantly. Since then we have put over two attacks—one on the St. Mihiel salient, capturing Thiocourt, Jaulug, and Rembercourt. Then we moved up to Chalons, arriving just in time for the big offensive between Verdun and Rheims—here we made a break through the enemy's line of trenches and penetrated to a depth of several miles. It has been wonderful, and the men again demonstrated their superiority over the enemy at every turn in the road. The French general commanding—Gaurard—claims that it was our success that enabled the French forces to flank the enemy positions and was responsible for the general retreat of the enemy on this whole front of Rhelms. It has been a glorious victory. Every day brings news of further advances and success; who knows but what the end is yet in sight. The morale of all allied troops has never been higher, and it is a fact that the morale of the Germans, as indicated by the prisoners captured, has never been lower.

In this latest attack it has been my privilege to be in command of the battalion throughout all the operations, having been promoted to the rank of major dating from July the first and placed in command of this batallion. Never before, on the other hand, have I realized such responsibility as in going into action with the lives of about thirteen hundred officers and men in one's keeping. I have four infantry companies of two hundred and fifty men each and one machine gun company of one hundred and seventy-five men, together with my brigade headquarters staff, and altogether about forty officers.

Still, we all realize when we go into battle how we are all in His keeping, and many is the prayer now uttered from lips that never made an attempt before. We are losing many very good men, but all are willing if necessary to make the supreme sacrifice in making possible the realization of all our hopes. Our men are not fighting for money, spoils, glory, or for any human idol, but for a great principle, and fighting with such determination and confidence of final victory that nothing can stop them.

The entire forgetfulness of self is illustrated in this experience: One platoon having gained some shelter while Fritz was shelling the vicinity saw a marine driving a team and wagon down a road nearby and past a captured ammunition dump. The marines called to their comrade warning him of the danger, saying. "You'd better pass that dump in a hurry because they are dropping a few big ones in there every few minutes." His reply was, "Well, this is a Boche team, a boche harness and a Boche wagon and ammunition dump, so if they all are blown up what is the difference?"

High enough tribute cannot be paid to our runners who carry messages back and forth in battle. They are the ones who run back and forth at all times through artillery and machine gun barrage; even when it gets so hot that all other movement must cease temporarily, they jump into it without a murmur, even anxiously, realizing the importance of their mission. They know no fear.

The latest scrap was probably the most interesting since we made a break in the enemy lines and pushed through to a depth of several miles. Our salient was dangerously narrow, and both our flanks were entirely exposed. I'll tell you some day of the time we had—Boche on four sides of us and coming strong with machine guns—a very exciting time I assure you. Still, we hung on and gained another citation from the French army for so doing. It is now believed that our regiment will receive the fourager—a decoration in the French service awarded to an organization as a whole when they have been cited in army orders four times; it is a sort of braid worn about the left shoulder. How proud we would be to wear it, inasmuch as there are only four regiments wearing the decoration in the French army * * * Well, maybe all this terrible struggle will be over before long and we can all come home to talk about our exeriences, all of us better men for them.

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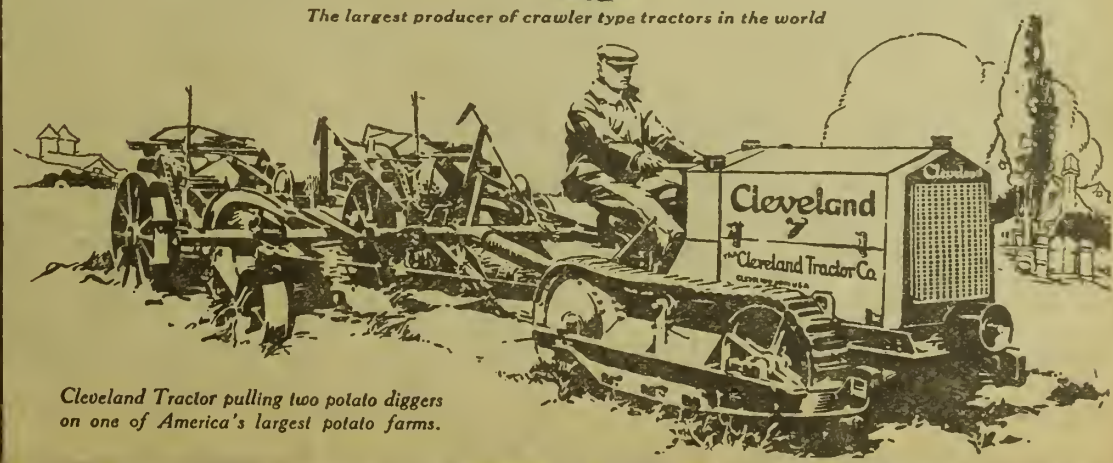

Cleveland Tractor pulling two potato diggers on one of America's largest potato farms.

County Agent Mason E Knapp of Weld County in Test Plat of Soy Beans

Experimenting With Soy Beans

One of the interesting places about Greeley is Prof. F. A. Ogle's demonstration farm, comprising nearly ten acres, under the direction of the supervisor of agriculture for the Greeley schools. County Agricultural Agent Mason E. Knapp, who is shown standing in the soy bean patch, follows the work done by Prof. Ogle with keen interest. A soy bean test has been undertaken jointly by the two agriculturists. Nearly twenty varieties of soy beans were planted last spring, the outstanding results being as follows: A wealth of foliage for feeding or green manure; good germination and growth; freedom from disease, though adjoining plots of beans showed bacteriosis and rust, after hail damage; full maturity in all but two or three varieties; excellent yields of good seed.

The tests will be continued next season under dry farming and irrigation, to determine climatic adaptability. So far the promise is that the soy bean will give us a good forage crop for hogs and sheep, and a splendid soil builder.

Soy beans matured in Adams and Weld counties and were shown at Brighton and at the Greeley Community fair in September. The variety that has shown the most promise of maturing under Colorado conditions is the Ito San.

The World's Food Needs

Comparative exports of six great groups of staple foods from the United States show a trend of conditions of unusual interest to American farmers. According to the U. S. Food Administration, exports of pork products during July, August and September of this year were more than three times as great as during the same months in 1917. Exports of beef and dairy products during the same period showed increases of nearly double the former amount. Comparative figures for the principal classes of food products follow:

	TOTAL EXPORTS	
Classes of Food	July, Aug., Sept., 1917	July, Aug., Sept., 1918
Beef Pdcts...lbs.	93,962,477	171,986,147
Pork Pdcts...lbs.	196.256,750	538,602,400
Dairy Pdcts..lbs.	130,071,165	161,245,029
Veg. Oils....lbs.	27,719,553	26,026,701
Grains .....bu.	66,383,084	121,668,823
Sugar (includes Cuban) ...lbs.	1,108,559,519	1,065,398,247

It will be observed that only in the case of vegetable oils and sugar have exports been slightly less. The Food Administration calls special attention to foreign need for animal fats. South America produces hogs and dairy products only in small amounts and the United States must expect to supply these important nutrients for several years at least.

The chief limiting factors, in handling the huge quantities of food required for exports are transportation, terminal and shipping facilities, and in the case of live animals, slaughtering and packing equipment for taking care of large market runs as fast as received. It is important for farmers to clearly understand that with large production there must be rational marketing if stabilized prices are to be maintained and waste avoided.

The part which conservation must play in the food program is likewise obvious. To provide by July 1, 1919, the 20 million tons of food for overseas shipment, a steady conservation in American homes is essential. This quantity of food is 75 per cent more than we shipped last year and must come from a harvest scarcely as large. In general there is a world market for all staple foods with an increasing demand for animal products.

Farmers of long vision will recognize that erratic prices, market gluts, and local increase in reserves, must be of temporary character, and that onservation, which enables the United States to fulfil its food pledges, means continued foreign trade in American farm products.

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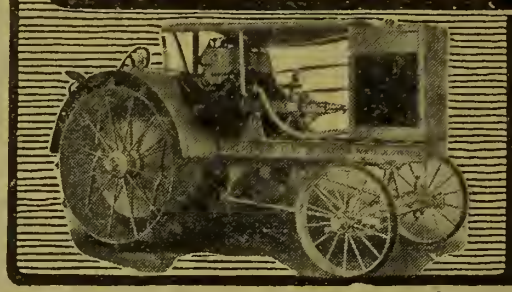

Spring: Plow, harrow, drill, pull manure spreader, cultivate orchards, etc.

Summer: Pulls binder, hay loader, drives clover huller, thresher, plows, etc.

Autumn: Run silo filler, corn sheller, baling press. Plow, haul loads, etc.

Winter: Run wood saw, feed grinder, pull stumps, general belt work, hauling.

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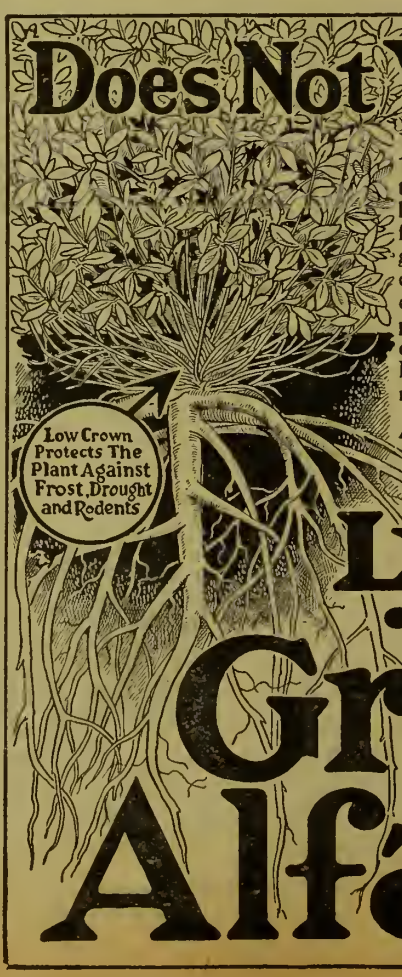

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BY BEN AMES WILLIAMS, Author of "Three In a Thousand," "Swords of Wax," The Power of Midas," Etc.

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CHAPTER XIII.
THE RENDEZVOUS.

EBEN'S only purpose in remaining on the monument had been to watch, to gain a more definite understanding of the situation which centered about the buglight. Upon the arrival of the first boat, the motor-dory, he had taken to the water without hesitation; but the coming of the second made the situation infinitely more engrossing, in his eyes, and he determined to return and overhear, at any cost, the conversation which was in progress.

The water was so rough that it was hopeless for him to attempt to listen so long as the choppy seas were breaking over his head. He swam quietly, therefore, to that side of the monument which was farthest from the ladder, and he set his hands and feet in the crevices between the rocks there and began to climb.

It was necessary for him to move slowly and cautiously since any sound would draw attention toward him and force him to dive for safety. He climbed with the utmost care. The side of the monument was almost perpendicular, slanting inward only slightly; and the crest of it was sharp above his head.

As Eben lifted himself above the water he heard the sound of voices, and when he was half-way up the side of the monument he heard the shuffle of feet moving toward the ladder. He was fearful that the men above him were leaving, and he drew himself quickly upward till his head was just below the crest of the monument.

Even so, his ears told him the others were going down the ladder. The buglight was between him and them, and he crawled up to the top of the monument and lay flat on his stomach behind the light. He even dared look around the structure of its base; and he saw the last of the men disappearing down the ladder.

Eben was desperate. He crawled forward, forgetting caution in his haste; and when the larger of the two boats cast off and prepared to depart he was lying on top of the monument, just above them.

From that position he heard at last a single sentence. He heard a man call:

"The buoy at one o'clock. Take care now and do not fail."

A low voice assented. The larger motorboat slid swiftly away through the night; and a moment later the dory likewise departed. Eben was left alone upon the monument.

When the sound of the motors was lost in the night the lame man turned to the buglight, unlocked the door, and entered. His watch was inside, and he found that it was quarter-past twelve o'clock.

The man had named a rendezvous for forty-five minutes later at "the buoy." Eben considered. That might mean any of the regular navigation marks; or it might mean some mark set by the conspirators. But he discarded each of these possibilities—because if they were true they put success beyond his reach. His only chance was that the man had meant the bell buoy, which lay south of the monument and within easy swimming distance. If they should meet there, Eben might hope to overhear what was said.

While he had been in the water during the last half-hour, his clothing had hampered him. He stripped now and found a flannel shirt which Carl had left for him the night before, and he donned this. "It will hide the white of my arms and shoulders," he told himself. There was chocolate in the food Carl had brought him; and he ate a little, and then waited ten minutes, and so at length climbed down to the water and set off toward where the bell buoy tossed, half a mile or so away.

The wind was freshening and the sea was turbulent—for which Eben was thankful. It increased his chances of concealment. He swam steadily and swiftly, for he wished to arrive at the buoy in time to choose his post of vantage with care. The sound of the great bell beckoned him through the night; and after ten minutes' swimming he saw its skeleton form upreared from the water before him. Presently he was alongside; and for a moment, treading water, he stared at the buoy, faintly oppressed by the loneliness of it.

The skeleton tripod on which the bell was hung rocked back and forth as the buoy tossed on the waves; and the four clappers hit the bell's rim with rasping, desolate clangs. The wind whirled across the waters with a steady pressure of air; and the great bell sent its warning signal through the night as steadily and faithfully as the light upon the monument.

There was something indescribably true and trustworthy about the bell; and there was, at the same time, something indescribably lonely and impressive. Eben imagined it torn with agony at this duty that was imposed upon it, and yet too proud to show its hurt, and too proud to fail in its duty.

Far beyond the monument lay the lights of town. To the southeast the light on the island gleamed. Where a road skirted the shore the twin eyes of an automobile's headlight peered balefully out across the water now and then; and above, in the skies, the aurora borealis flickered and played like mighty searchlights flirting with the stars. Eben marked these northern lights, and said to himself: "That means a thunderstorm," and the immensity of them and their calm majesty somehow oppressed him. He swam quickly toward the bell buoy and drew himself upon it, glad of the companionship it furnished him.

The bell rasped and clanged above his head, and the white caps gleamed like bared teeth upon the wavetops all about him. He rose and stood, holding with one hand to the steel tripod which supported the bell, and so searched the waters on every side for some sign of those who were to come.

They were nowhere in sight; and Eben considered how he should hide himself when the time arrived. He considered climbing to the top of the tripod and crouching there, and laughed at the idea, but abandoned it. Then he wished he might descend inside the steel chamber of the buoy; but the hatch was riveted in place. The water was his only hiding-place. He knelt and looked over the sides of the buoy and saw that they were hung with kelp—and he chuckled. "That will do," he told himself. The broad ribbons of the weed would cover him, hide even his face, if necessary; and only sheer ill-luck would reveal his hiding-place.

This decided, he sat down with his feet dangling in the water and waited; and his eyes were busy searching through the night. He had left his watch on the monument, and could only guess at the time. Fifteen minutes to swim to the buoy; five minutes here. He estimated that it still lacked ten minutes before one o'clock.

A minute passed, and three, and five; and then Eben suddenly perceived a dark and gliding shape upon the water to the southward. It widened swiftly, defined itself more clearly, and Eben's heart leaped. "A submarine," he whispered.

The craft had been racing toward the buoy. Now it turned broadside to the tossing bell and slowed and stopped. Eben heard a dull grating of metal, the snick of bolts sliding in their sockets, the muffled blows of a maul. Then an engine whirred softly and a big motorboat came racing toward him.

"They must carry it in a nest on deck," he thought, and slipped into the water, drawing the kelp about his shoulders and face till only his nose and the top of his head were above water. He was alert to the peril that the craft would run alongside the buoy at the spot where he was hidden and crush him; and it was well that he was watchful, for the power-boat did dart toward where he lay. A sailor in the bow hooked the buoy with a boat-hook even as Eben sank softly and groped his way down and around the curving side of the buoy to emerge on the other side. As he did so he felt the boat bump the buoy gently; and then some one barked a low command—in German—and feet thumped upon the steel of the buoy and the boat sheered off and drew away.

Eben lay still. One of the men on the buoy—there were two—came and stood just above his head without speaking; and Eben dared not look up lest his white face against the dark water reveal his hiding place. The man must have been staring off across the water, for, after a moment, he said in German:

"They are not in sight."

"They will come," another voice promised; and Eben recognized this as the voice of the man who had made this rendezvous less than an hour before, upon the bell buoy.

"You count on them?"

"Entirely."

The voices of both men were steady, but there was a tension in them, an undercurrent of anxiety and excitement. Something moved on the water, and Eben saw that the motorboat which had brought the two men was slowly circling the buoy at a distance of fifty yards. Minutes dragged by, minutes of waiting.

"They signaled that they have the in-

Turn to Page 13

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Must Feed the Starving

At this moment Germany has not alone sucked the food and animals from all those masses of people she has dominated and left them starving, but she has left behind her a total wreckage of social institutions, and this mass of people is now confronted with engulfment in absolute anarchy. If we value our own safety and the social organization of the world, if we value the preservation of civilization itself, we cannot sit idly by and see the growth of this cancer in the world's vitals. Famine is the mother of anarchy. From the inability of governments to secure food for their people, grows revolution and chaos. From an ability to supply their people, grows stability of government and the defeat of anarchy. Did we put it on no higher plane than our interests in the protection of our institutions, we must bestir ourselves in solution of this problem. There are millions of people now liberated from the German yoke for whose interests we have fought and bled for the last eighteen months. It is up to us to neglect no measure which enables them to return to health, to self-support and to their national life. This is the broad outlook of some kind of food administration during the next twelve months. As to what the detailed structure of our organization may be, to effect these ends, or even its actual name, can be developed from time to time to suit necessity.—Herbert C. Hoover, United States Food Administrator.

Our Democratic Ideals

America astonished the world by turning with incredible swiftness from the paths of peace and into war twenty months ago. So today we are reversing the process with the same amazing speed and effectiveness, resuming normal pursuits, taking up old tasks where they were temporarily abandoned, all without noticeable friction. When one stops to review the results of the two forms of government that have been at war there can remain not the least doubt as to which is the effective government, that which demands subservient obedience to the whim of monarchs, or that which spontaneously answers to the call of humanity. One follows a flag that expresses an idea; the other bows its knee to the will of a man.

Democracy dormant sometimes leads to loose government; but democracy aroused is invincible. Autocracy is formidable only while fear and terror last. Faced by the forces of right, autocracy crumbles because the consciousness of right brings courage and fearlessness to its opponent.

That is the philosophy underlying the defeat of Germany. It contains also the warning that we must heed, if we are to continue progress along democratic lines. We have witnessed the complete self-forgetfulness of the batallions that went abroad from America and fought against the imposition on the world of a military autocracy. At home we have not been as free from selfish and greedy desires as have the men who saved us from the German menace. The war has not changed human nature, but it has been fought almost in vain if it has not bettered all of us and given us motives that come closer to those that inspired the winning armies.

As a nation we have been standing together behind the armies, for the most part forgetting our personal and petty concerns where they crossed purposes with those of the nation. Why cannot this spirit be preserved in the days to come? It can and it must, if we expect to accomplish all that democracy stands for, which means government by the people and for the people. Public interest must be put above self interest in such a government, hence the individual units comprising such government must be unselfishly patriotic in peace or war. Idealistic as this may seem, we must learn to think in terms of "the greatest good to the greatest number" if we would hope to impose upon all enlightened nations the form of government founded upon the Declaration of Independence. We shall be obliged to realize the expressions of the founders of this republic were not empty phrases, but burning truths. The only way to come into a knowledge of what true democratic government means is to shape our individual course in accordance with this ideal. The war has shown us the practicability of this, because some millions of our men have offered their lives for this ideal; then why reject the application of the thought to the course of ordinary civil life?

✦ ✦ ✦

That Wheat Cost Guess

There has come from Secretary of Agriculture Houston a complete and decisive repudiation of the figures on the cost of wheat production made public by the office of farm management at a hearing of the senate committee on agriculture some months ago. These figures pretended to show that the farmers were actually losing money on two-dollar wheat. They were used by members of Congress in an effort to boost the guaranteed price, and only President Wilson's insistence upon keeping bread within reach of the people of this country and our European allies, prevented success of the movement. Some members of Congress undoubtedly were misled by the figures; others made political capital of their efforts to boost the price, in order to get the wheat growing farmer's vote.

In a lengthy statement, made to the president of the senate on November 7th, Secretary Houston declares that the figures were based on incomplete data, gathered from an investigation covering less than three hundred farms, supplemented by guess work and "mental impressions formed." His letter is a severe indictment of methods too frequently followed in so-called expert investigations, which give us what is merely a summary of opinion, instead of a digest of facts and figures.

That the guaranteed price of wheat is just to all sections of the country is not claimed, but that it is as nearly fair as practicable is proved by the way the wheat growers sowed grain. The average farmer may not be able to show books on his crops, but give him credit for sound sense when it comes to selecting the crop that will bring the best general results. He knows what dollar wheat meant to him four or five years ago, and there are figures to back him in the opinion that he was doing very well at that price. He is also aware that a difference of one hundred per cent in the price is about fair under present high cost conditions. The remarkable thing about the wheat price controversy was that very few wheat growing farmers were kicking and that all the fuss was between the experts and the politicians in Congress.

It is refreshing to have the Department of Agriculture acknowledge that a blunder was made; that the man chiefly responsible has severed his connection with the department; that the secretary promises in the future, when such studies of cost of production are made, it will be done by competent persons in the department, assisted by economists and students of crops from outside the department; and that approved methods shall be employed. The secretary puts his finger on the trouble when he says: "Conditions differ not only from farm to farm, but also from section to section, and averages mean very little."

He might have added that when averages are based on fragmentary data they do not deserve to be designated as averages. The price of the loaf to a hungry world was a great stake that should not have been imperiled by a guessing statistician who thus sought to "pass the buck" to the innocent farmer.

✦ ✦ ✦

Proper Use of Initiative

The relief bill for the blind which was adopted at the recent election in Colorado by a vote of more than ten to one, furnishes a very interesting instance of the efficiency of the initiative and referendum, when properly applied. The bill was carefully prepared by the best of attorneys and presented to the last legislature; it finally passed the House without opposition and went through the second reading in the Senate; also, without a dissenting vote. It was then referred to the finance committee and never saw the light of day again. It had been carefully considered and was admitted to be a most meritorious and well prepared measure.

The bill was then initiated and 30,000 signatures were secured for this purpose and a successful campaign inaugurated; the whole cost of this work was $205. It was the intention in the first place, that the initiative and referendum should give the people a final veto on unjust and undesirable measures and enable them to take initiative action when the legislature refused to act.

This particular law provides for the first time for assistance to blind people who have no means of support and allows them to stay with relatives and friends who have an interest in their welfare, instead of attempting to send them to public institutions at a much greater cost. It is possibly the best law of its kind in the country and will not only provide a cheap but humane care for these people.—E. M. AMMONS.

✦ ✦ ✦

Preparing for the Stock Show

The thirteenth annual National Western Stock Show will be held in Denver, January 18 to 25, inclusive, and will be known as the Victory exposition. While the war would not have interfered with the holding of the show, the signing of the armistice, nevertheless, has removed restrictions and insures what will be without doubt the greatest show yet held at Denver. Efforts are being made to secure special rates on the railroads, which is a concession that could hardly have been expected had the war continued. Another favorable development is the fact that the draft calls have been discontinued, which will leave on the farms and ranches many young men who have been counted on to help fit stock for the exhibition, and who otherwise might have gone to war. In short, all circumstances point to a successful exposition with more entries than have ever been recorded and added interest by farmers because of the inevitable expansion of the industry that must follow when peace is formally declared.

The premium list is being distributed. It shows that the awards in cash premiums will run over $30,000. A number of sales of registered cattle are being scheduled, in addition to the usual car lot sales. There will be a big demand for feeder cattle, and Denver is now the largest world's market for that class.

The annual convention of the American National Livestock Association will be held during stock show week, bringing to Denver hundreds of stockmen from all parts of the West to take part in the big convention and see the show. It is also planned to arrange a mass meeting of stockmen and farmers, to be addressed by government officials and others who can give reliable information regarding post-war conditions in the livestock industry.

The Branding Iron

Applied by Elias M. Ammons

The Kaiser's announcement as far back as a year ago that he would have Paris for a Christmas present seems to have been permanently premature. The Yanks threw a monkey wrench into the machinery and stopped the procession.

✦ ✦ ✦

The trouble with the Kaiser was, he tried to take in too much territory.

✦ ✦ ✦

The goat of the "Branding Iron" column was butted out of the last issue by the "flu."

✦ ✦ ✦

The 11th of November will probably be known in the future as the most important milestone in the march of democracy. It should be made a holiday and celebrated as "Peace Day." It was, perhaps, the greatest day in history.

✦ ✦ ✦

There were 14,000 kitchen gardens in Denver this year.

✦ ✦ ✦

"Furnish homes for the returning soldiers, settle up the state and double our population and business," should be Colorado's slogan next year.

✦ ✦ ✦

With the co-operation of the Agricultural college, all the cities of the state have employed garden experts. Denver is to have three.

✦ ✦ ✦

The Agricultural and Livestock Bureau of the Denver Civic and Commercial association is starting a movement to furnish homes for returning soldiers and settle the lands of the state. It is the intention to take advantage of the offer of Secretary Lane to secure the building of new irrigation enterprises; to settle up the 10,000,000 acres of public lands, now open to entry; to put people on available state lands; to secure the co-operation of chambers of commerce and local authorities all over the state in putting families on privately owned lands not now fully used. There are thousands of locations which can be secured on most profitable terms, and it is the purpose to have these listed in a manner that will give intending settlers fullest and most reliable information concerning them. The members of this bureau realize that Colorado's greatest growth has come from the development of its lands and know that its cities, factories and other business will grow in proportion to the settlement of the state. This is the most important move made in many years, and with the assistance of the state and federal governments, the Agricultural college and extension workers and the local authorities, there should be no question about the result. In the readjustment following the war the movement of "back to the land" has never been as strong as it will be now, and Colorado should take full advantage of the situation.

Undoubtedly many mowing machines have been or are about to be scrapped, though still capable of doing several years of useful work if only a small percentage of their original cost were expended upon them for repairs. The proper time for overhauling these machines is during their period of inactivity and before the rush of spring work.

About 24 per cent of the entire hay crop is baled, it is estimated by the crop reporters of the Bureau of Crop Estimates. It is expected that 18,600,000 bales of cultivated hay and 2,488,000 bales of wild hay will be baled from this year's crop.

An additional value of $35 an acre has resulted from ensiling sugar-beet tops in Ventura county, Cal. Formerly the tops were sold in the field to cattle and sheep owners at about $2 an acre. The new utilization means a great saving in feed. The farm bureau in Ventura county is carrying on a silo campaign, and plans have been laid for the construction of a number of beet silos this year.

Comment by Farmer Putnam

WANTS READERS TO DECIDE WHO WAS RIGHT IN A LITTLE CONTROVERSY HE HAD WITH JOSEPHINE

JOSEPHINE and me had it up and down ag'in the other day. I don't know what to do with that woman, exceptin' to give her a good bawlin' out through the paper, and even that ain't much satisfaction, because when she reads it she lights in on me ag'in and I git a dressin' down that's worse than ever. But I got to relieve my feelin's somehow and I leave you-all to judge which was right, me or her, in this controvessy. She begun it, as usual. She sez to me the other day, "Tom, I want you to git busy now that the boys has cut up the pig and make some sausage. Everything's ready. Put the little plate in the grinder, because it has to be ground up fine, and drop them spices in when the meat goes through. I got 'em all ready mixed, nutmeg, salt, pepper and sage. What you standin' thar lookin' at me so fur? Come here and let me put this apron on you, and don't git no grease spots on your pants; them's your Sears-Roebuck pants, and you got to keep 'em nice fur Sunday."

After she run on that way fur a while I put my foot down and sez in my stern voice: "Woman, you don't ketch me a-makin' no sausage. Do you know who invented sausage? Of course, you don't. Well, it was the Huns. I'm no pro-German, and I don't make no sausage, nur no kraut, and what's more, we don't eat none of them Hun dishes hereafter."

"Tom," she sez, "don't be foolish. Don't you reckon I kin tell when you're tryin' to camelflage? You and work don't love each other and any excuse is better'n none. I know who invented sausage, and it wasn't the Germans. It was the Italyans, and they is our alleys."

I come right back at her machine-gun fire with a barrage of shrapnel, and finally she said she could prove it to me that the Italyuns invented sausage and that it wasn't a German dish. She went up in the attick and got out her old Cram's geography and showed me on the map of Italy a town named Bologna, and said it was pronounced boloney, and that the first sausage was made in that town and they was exported to Germany, and that Germany claimed to be the inventer of boloney just like they was claimin' everything else.

I put the little plate in the grindin' machine and begin to put through the meat and spices and kept my trap shet, because I didn't have no comeback after she showed it to me in the georgraphy, but I'm leavin' it to you-all to jedge; was she right or wrong? Had we orter eat sausage, or kraut, or rye bread? I'm powerful fond of them things, but willin' to sacrifice 'em fur the good of humanity. I been readin' a lot about that thar German kultur, which is somethin' we never eat at our house, but if kraut and sausage is in the same class, why I say, let's kick it all out and boycott everything that smells hunnish.

I see the Kaiser lost his job. I knowed he'd git it in the neck sooner or later, even if I staid over here. Durin' this fluenzy scare I staid to home more or less and read a little hist'ry, just to see what I could see in them books that I didn't yet know. I seen some interestin' facts about Napoleon, Alexander the Great, Frederick the Great, Charley Mange and other old skates that tried to rule the world. Every last one of them fellers was a sport, exceptin' Frederick the Great. Him and his family before and after him had a crazy streak. He was one of the Hohenzollers like the defunct kaiser. Now take Napoleon, fur instance. He starts out to conquer the world at the head of his army. He takes pot luck with the soldiers, puts up in a tent, and when he has any grandstandin' to do, why it's done right out on a hilltop where the shells is fallin' thick, and where his men kin see him with his left hand in his buzzum, irregardless of danger. Aleck the Great was the same kind of sport, ridin' a purebred Arabian stallion right in front of a regiment of Greek phalanxes, with their spears all pointed the same way, all on a level. I seen the picter of this in the hist'ry. It was the same with them others. They all done a lot of damage in the world, but we got to give 'em credit fur bein' soldiers and not afraid to git out and show the men how to fight.

But that thar ex-kaiser Bill, why he was a wireless soldier. Safety first was his motto; safety first fur Bill and his sons. He never give a order to fight exceptin' over the phone or the wireless, and he never got near enough to the front to smell powder. He done all his warrin' by proxy and the proxies finally woke up and quit, and when the kaiser heard the storm comin' instead of stayin' in his palace and sayin' "Come on and take me," why he showed his yellow streak by jumpin' in his Ford and rushin' fur Holland. My, what a brave story that'll make fur hist'ry!

Come to think about it, the laugh is on the hull world. I kin recolleck when we used to hear Germany discussed as a "invincible nation, of gigantic military strength that nothing can successfully cope with." And it was all bluff, and now Germany is busted up into counties ag'in, with nobody to take charge till after the funeral.

It just goes to show that when the people don't rule a country it'll go under. They has been a lot in the papers about what to do with the kaiser. If you want to be right kind to him kill him. If you want to see him suffer let him live and see and hear and feel what the world thinks of him. But don't keep him no longer than six months, because the Hearst papers'll begin to work up sympathy fur him by that time, countin' on us to furgive and furget.

Now, in closin', I want to thank one of my friends over in Garfield county, Colorado, fur writin' such a nice letter with his subscription money, which is as follows:

"Rifle, Colo., Oct. 24, 1918.

"Dear Comrade: You tell Western Farm Life that it is out of the question for my wife and I to think of missing your letters for fifty cents a year. We couldn't miss one for that. It is always a tussle to see which one of us gets it first to read. We don't only enjoy your humor, but also your common horse sense that puts everyday clothes on plain facts so country people can recognize them. There are no questions to ask the school teacher about what you meant by what you said. It is self-explanatory. Long may you live and grow bigger.

"Your farmer friend,

"C. A. HAMRICK."

Now, that's what I call fine. If more of you folks would write in them kind of letters—with cash inclosed fur two years at one dollar, or five years fur two dollars, maybe they could afford to pay me a leetle bit more and I'd feel a heap more humorous.

THOMAS JEFFERSON PUTNAM.

There is a notion very prevalent in the United States that when the American soldiers return home they are going to feel very kindly toward the subscribers to the Liberty loans. Liberty bonds are incontrovertible evidence that the purchaser has supported his overnment, has supported our soldiers abroad in this war. Keep that evidence in your possession until the boys come home.

WATERLOO BOY
Original Kerosene Tractor

Pin your faith to the tractor whose record you know. Four years of consistent success in the hands of thousands of American farmers have established Waterloo Boy supremacy.

Waterloo Boy users have demonstrated its ability for ample power in all work, under various soil conditions; its average consumption of less than 2 gallons kerosene to the acre of plowing; its threshing cost of 15c per hour. Waterloo Boy users plow from 8 to 12 acres per day and get special acreage advantages in other farming operations.

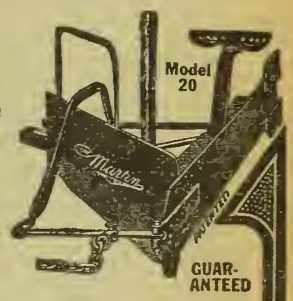
They have found this reliable Three-Plow Tractor easy to operate, strong and durable in construction, and fully up to their expectations in performance. Dust-proof gear construction, complete accessibility, automatic lubrication and reliable ignition insure easy and continuous operation. Every part of the Waterloo Boy performs its service.

Its Record Is Your Guarantee

Get these facts from our users themselves. They spell Waterloo Boy success for you. Many bona fide voluntary expressions of our users' complete satisfaction are contained in our catalog. Consult this book before going further into the tractor question. It will save you time, labor and money to buy a Waterloo Boy. Write for our literature today.

JOHN DEERE
5607 W. 3rd Ave. Moline, Illinois

Easy Ditching



THE "good old days" of a pick and shovel have become memories. Instead of spending a week on a mile of ditch, Mr. Farmer now completes the job in a few hours. He does a better job, too—and saves a BIG LOT of *valuable* time. He does it with THE Martin

DITCHER, Grader and Terracer

Makes new ditches; cleans old ones; grades roads; builds dykes and terraces. Cuts alfalfa, Bermuda grass or sweet clover roots from ditch banks, without plowing. Does more work and better work than 100 men with old methods.

Made In Horse and Tractor Sizes

All steel. Reversible. Adjustable. No wheels, cogs or levers. More MARTINS now in actual use than all other farm ditchers combined. Warehouses and distributing points in nearly all Western States. Write for free descriptive catalog and nearest distributing point, together with list of MARTIN users near you.

Owensboro Ditcher & Grader Co., 1596 Wazee St., Denver, Colo.

MYERS Power Spray Gun

Equip your Power Spray Rig with a Myers Spray Gun, and save time, labor and material. With it one man does the spraying and the entire capacity of rig is utilized. A single shot to a tree is often sufficient. One-third turn of handle adjusts the Myers Gun from a broad fan-like spray to a long one for high trees. Gun is provided with three discs—4, 6 and 8 gallons capacity—adapting it for use with any power pump.

Help is scarce—time is money. Do your spraying single handed next spring by using this modern and simplified one man spraying device—the Myers Spray Gun. Circular and information gladly furnished. Ask our dealer or write us.

F. E. MYERS & BRO.
No. 155 Orange St. Ashland, Ohio.

Farmers' Service Bureau

Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Spring Grains for Dry Farming

Answer to A. D., Pueblo county, Colo.

About spring grains for dry farming at 6,000 feet: Barley and rye are the surest small grain crops for spring sowing. If you want wheat on the dry land farm it should be winter wheat, sown early, about September 1, on summer fallowed ground. Barley, either the two-row or the six-row type, will do well on dry land, if your ground has been plowed in the fall and you have stored moisture through the winter to give it a start. It makes a good feed, practically the equal of corn. Lately it has also had more value as a cash crop, being in demand along with all other bread grains. The same is true of spring rye, which stands adverse conditions on the dry farm better than wheat. As to time of sowing, that depends on the season and on condition of the ground. The dry land farmer who plows in the fall not only has the advantage in choosing the right time for seeding in the spring, but has conserved the winter moisture. If for any reason fall plowing has been impossible, then the earlier the better in spring. Get out with the plow just as soon as the frost is out of the ground.

Shed on Section Line

Question: A party has put a shed and a lot of material over the section line where there should be a road. The material scares our horses and we have to drive around it. What can I do about it?—J. W., Otero county.

Answer: Take the matter up with your county commissioners who will tell you how to proceed to have a road opened.

Inheritance Tax Question

What would the Colorado inheritance tax be on notes valued at $10,800?—M. G., New Mexico.

That would depend upon the relationship of the beneficiary and the condition upon which it is willed, namely, whether it is outright, on payment, or a life interest. There is a $10,000 exemption in all bequests to direct heirs.—Inheritance Tax Dept., Attorney-General, Colorado.

For Sweeney in Horses

Answer to A. M., Weld county, Colo.

Symptoms—There are generally swelling, heat and tenderness, all along the external surface of the shoulder blade; but in the majority of cases, the patient shows no lameness until the swelling and heat have subsided and atrophy, or wasting of the muscles, has begun. This generally takes place in a week or two, from the time of the injury. The hollow space is usually the full length of the shoulder blade, and is sometimes very deep, so that the spine of the bone is prominent.

Treatment—During the inflammatory stage, while there is heat and swelling, foment well with hot water, and after the swelling has disappeared, apply a mild stimulating liniment, as

Ammonia	1 ounce.
Turpentine	2 ounces.
Sweet oil	5 ounces.

Mix.

Or,

Oil of cedar	½ ounce.
Oil of tansy	½ ounce.
Oil of hemlock	½ ounce.
Oil of wormwood	½ ounce.
Alcohol	10 ounces.

Mix.

Use three times a day, rubbing in thoroughly. Do not be afraid of rubbing, as it stimulates the muscles to development. Use at light work on level ground, or turn out to pasture, for the patient needs exercise to develop the muscles. Do not be discouraged, but be persistent in your treatment, as it frequently takes six months, and sometimes a year, before the hollow is filled up and the muscles fully developed. If it seems very slow, apply at intervals the following:

Vaseline	1 ounce.
Red iodide of mercury	1 drachms.
Cantharides	1½ drachms.

Mix.

Fall Plowing Beneficial

Answering A. D., Pueblo county, Colo.:

Fall plowing is always beneficial, except in case of a very light sandy soil, which would blow. Where ground for garden is fall plowed the snow lays longer and naturally more moisture is conserved. The ideal preparation is to apply stable manure and then plow this under, leaving it to weather during the winter. This adds humus and fertility, increasing the water holding capacity of the soil and the water content by conserving the winter moisture.

Sweet Clover—Your proposed method of sowing on the snow in a pinon pasture might work successfully if the pasture is pretty well grassed, and if it is in such shape that a disk can be run through it to tear up the sod. Disking and harrowing the native pasture is good practice, where the trees permit it. Follow this by broadcasting unhulled sweet clover seed. You need not wait for a snow, but when the snow comes and covers the pasture thus handled you should be successful in getting a start with sweet clover. Ten pounds of seed to the acre is sufficient for this method. But see that you get seed that will germinate. If there is any doubt about the quality of the seed send a half pound sample to the State Seed Laboratory at Ft. Collins, and it will be tested free of charge.

U. S. Food Law Doesn't Apply

Answer to Subscriber, Fremont county, Colo.:

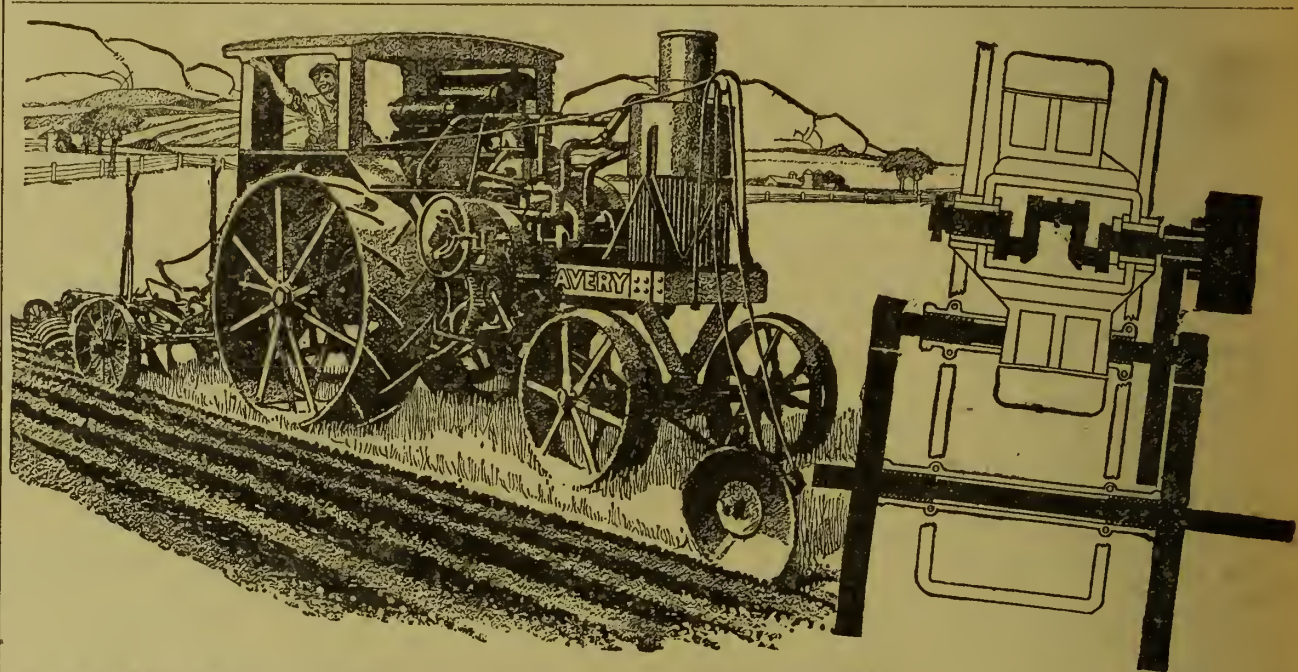
Replying to your letter to Mr. Hoover of October 29, the Food Control Act of August, 1917, under which the United States Food Administration operates, provides, in Section 8, a penalty for any person who willfully destroys any necessaries for the purpose of enhancing the price or restricting the supply thereof. The Food Administration has no authority to enforce this provision. Any prosecutions under this section should be instituted by the United States District Attorney for the particular district in which the offense occurred. There is nothing contained in the Food Control Act that is directed against the destruction of food crops by cattle breaking through fences. We do not know of any other federal laws applying to the situation and it is very likely that any action that is taken in such cases would have to be taken under state laws.—Edmund W. Pugh, Asst. Counsel, U. S. Food Administration.

Colorado Grange Notes

Signing of the armistice has brought peace near and every Granger is consequently happy, although in many homes rejoicing over the world's deliverance from the hand of autocracy is tempered by sorrow over the passing of loved ones who helped their nation in the greatest task that has ever been accomplished by civilization. Many hard problems have been put on the shoulders of the farmer and he has borne them without a murmur, cheerfully giving even to the extent of his life, to save this country from an invasion of Germanic kultur, such as would have threatened us, in the event of defeat of the Allies. Peace will bring with it many new problems, some of them equally hard to solve, and there may be much uncertainty for a time. The Granger faces the new conditions with the same fortitude with which he faced and solved the greater problems of war.

Lifting of the influenza ban in a large section of the state caused a reopening of activities in many local Granges, which had postponed their first fall meetings, at the request of the State Board of Health. By the time this issue appears it is probable that the epidemic will have run its course almost everywhere, and if so, meetings will be resumed with renewed activity and greater vigor, due to the long period of quarantine. Many Grange homes have been saddened by visitation of the epidemic, but, on the whole, the country people have been more fortunate than those in towns and cities where congestion and too much indoor life made the people susceptible to the contagion.

This column contained an article in the issue of November 1st regarding the expansion of the Grange Stores Company, stating that this company had purchased the mail order business of Bon I. Look & Co., an old established Colorado concern. At the time the announcement was given out by the purchasing department of the Colorado State Grange there was every reason to belive that the deal, which had been practically consummated, would go through. However, the unexpected happened and, after the item was already in press, negotiations were called off. Bon I Look & Co. continue carrying on business at their old location, 15th and Blake streets and the Grange Stores Company remain at the present location of State Grange headquarters, 1616 Arapahoe street, where Purchasing Agent Scruggs is prepared to take care of the merchanidsing wants of the farmers.



Top view of Avery Perfected Opposed Motor and Patented Sliding Frame Transmission. Note direct drive to belt wheel and drawbar—only 3 shafts—only 8 gears—all straight spur gears.

AVERYS—The Tractors With The Perfected Opposed Motor and Patented Sliding Frame Transmission

THE **Perfected Opposed Motor** used in Avery Tractors has advantages for tractor work which no other tractor motor has.

An opposed motor distributes the weight correctly between the wheels, makes possible a narrow tractor—has a short crankshaft with only two bearings—is stronger in construction and runs at a low speed.

The **Avery Perfected Opposed Motor** has all these advantages—and then many more. We built it with the heaviest crankshaft in any motor, a round radiator with thermo-siphon cooling system, and valves in the head. Then we invented the wonderful Avery renewable inner cylinder walls, adjustable crankshaft boxes and gasifiers for burning kerosene and distillate. **No other motor used in any tractor has even half of these features.** The power of this motor is delivered to the belt wheel and drawbar by the simplest system built—the **Avery Patented Sliding Frame Transmission.**

This is the only transmission that makes possible a direct drive in either high, low, reverse or in the belt. It has only one clutch—only three shafts—only eight gears—all straight spur gears. The belt pulley is mounted on the crankshaft, and no crankshaft bearing on the frame or bevel gears are used. Without a question the **Avery Patented Sliding Frame Transmission** is the simplest and most efficient belt and drawbar transmission system built.

Write For Catalog or See An Avery Dealer

You will find this same type of Motor and Transmission in all five sizes of Avery Tractors, from 8-16 to 40-80 h. p. The Avery line is a complete line of power farming machines, including also a special 5-10 h.p. Avery Tractor, the Avery Motor Cultivator and Avery "Grain-Saver" Threshers and Tractor Plows. They are ***successfully used by farmers in all 48 States and 61 Foreign Countries.*** Ask for catalog or see an Avery Dealer.

Let Us Teach You How To Run a Tractor—*Free*

Avery Tractor Service Schools will be conducted at all our Branch Houses, Distributors' and at many of our Dealers'. If you cannot attend, you can get the same instruction free in our Correspondence Course. It covers these subjects:

1. The Principles of a Tractor Motor
2. Carburetor Adjusting
3. Magneto Care and Repair
4. Adjustment and Lubrication of Bearings
5. Valve Grinding
6. Belt and Drawbar Transmission Systems
7. Operation of a Tractor

Write us for dates of Avery Tractor Service Schools or for Free Tractor Correspondence Course

Special Avery Exclusive and Protected Features

Take particular note of these exclusive and protected Avery Features:

1. Renewable Inner Cylinder Walls enable us to use a harder material which wears longer and, if it ever does wear, the walls can be replaced and the Motor made as efficient as in the beginning and with less expense.

2. Adjustable Crankshaft Boxes, which enable you to take up any wear in the main bearings instantly without tearing the Motor down.

3. Duplex Gasifiers, which turn kerosene, distillate or other low-grade fuel into gas and burn it all.

4. Double Carburetor, by which you can start on gasoline and instantly switch to kerosene or distillate without having to make a single adjustment.

5. Crankshaft one-half or more in diameter than the cylinder and so strong it is almost unbreakable.

6. Thermo-Siphon Cooling System, which does away with the pump, fan, belts, gears and chains and saves the power required to drive them.

7. Round Radiator, which catches the wind from any direction.

8. Internal Gear Pump Oiling System that protects every working part of the motor.

9. Sliding Frame Transmission, which transmits the power to the belt wheel and the drawbar with the least loss, and is the simplest and most durable transmission system built.

10. Universal Self-Cleaning, Non-Slipping Lugs that fit all conditions of field or road work.

AVERY COMPANY, 4121 Iowa Street, Peoria, Ill.

AVERY

Motor Farming, Threshing and Road Building Machinery

Trapped

Continued from Page 9

formation," said the man who had spoken first in a tone that implied a question.

"They assured me of it on the monument."

The other man received this with a guttural ejaculation.

"The destroyers have no suspicion we passed them," the second man remarked.

"Blind fools!"

The other chuckled.

"They will not know—till we choose."

"And then it will be too late."

"And while we hide under their noses they scour the coast scores of miles away."

"There is no other spot on the coast where you could hide so much as a cask of oil. These so ingenious and clever Yankees! Pah!"

The other laughed roughly. "Was is not your plan that we should be bold—choose their very base of operations for our shelter?"

"Yes—so."

They fell silent again; and Eben, in his hiding place, felt himself trembling with the triumph of it. The bell clanged and rasped under the clappers' strokes, and the buoy tossed and tilted in the seas; and above them the great lights played obliviously.

The two men began to get impatient. They stamped back and forth across the buoy, their feet grating and scraping on the steel. "It is past the hour," one muttered, and the other reassured him. "They will come."

A moment later he cried: "They are coming—there."

Eben could not see in what direction the man was pointing, but the sound of his voice told him the man was facing away from the spot where Eben was hidden. The lame man was content with that; and he waited.

Presently he caught the sound of a motor as the other boat approached. It seemed to come slowly. The men on the buoy were moving impatiently; and their anxiety affected Eben. He wished now that he had chosen the greater risk of perching atop the buoy; and when the other boat bumped the side of the buoy Eben could hardly bear to remain quietly in his hiding place.

The boat bumped but drifted past; and the men on the buoy swore. Eben heard the motor start again as the craft circled to return again; and this time, when the dory touched the buoy, he could not remain quiet. He must see.

He turned in the water and reached up with his hands and caught the edge of the buoy platform; and he lifted himself very slowly so that his weight should not betray him. He lifted himself thus until his eyes came above the level of the buoy.

As he did so two people were landing from the motor dory, climbing out upon the buoy. They appeared to be men; they wore men's garments.

But as they stepped out upon the buoy one of the Germans flashed an electric torch for an instant in their faces, and Eben recognized them. There could be no mistake.

The two people were Anne Marshall and her mother.

CHAPTER XIV.
THE CONFERENCE.

When the United States entered the European war, Eben Scour was living quietly at his home in a little Maine town with his mother. He was restless, full of an energy which found no sufficient outlet; and for two years he had believed that the country should and must inevitably enter the war.

His mother's Hungarian birth did not prevent her from seeing clearly the black crimes of the Mitteleuropean alliance; and she had reared her son in a loyalty to her adopted country which was unshakable, which burned more fiercely than the patriotism of the native-born folk who dwelt about them, and who took their country as a matter of course.

Eben Scour was a college man. In college he had been a persistent athlete; and though baseball would have none of him, he held a place at quarter-back on the scrubs through three football seasons, won his letter in the last five minutes of the last big game, and in tennis was the mainstay of the college team for his last two years. He had gone to college from the small town of his birth; and during his college vacations he had chosen to work in the cities; and the college and the cities he had seen had given him an ardent and burning love for the land.

When the first Plattsburg camp was held he sought admission. His lameness, though it did not hamper him in athletics, though it was not so much a weakness as a mere blemish, barred him from the camp. He attempted to enlist—failed. With the outbreak of the war he tried enlistment again and again, and was always rejected.

In the end he gave up hope of finding in military service an opportunity to do his share in the work; and he set about to find some other way. He found it in an assignment from the War Department to watch a certain section of the New England coast for possible attempts to establish a submarine base; and it was this mission which had established him at the Barbette for the second summer of the war.

The dead man in the dory, which Hobart had picked up off the Barbette, was his first hint of the presence of submarines, and he had pursued the scant clue that incident offered incessantly ever since. His canoe had taken him to obscure corners of the bay; he was afloat in it night after night, watching and searching and listening; and as new evidence came to him he had secured and installed a microphone so that he might detect the presence of vessels in the bay at any time.

In the exultation of this work he had paid scant attention to the question who was maintaining communication with the submarines. That phase of the matter had not occurred to him. When, therefore, he recognized Anne Marshall and her mother at this rendezvous with the German officers, Eben was stunned with amazement and dismay—for he loved Anne.

For a moment after his recognition of the two he clung to the edge of the bell buoy, paralyzed. Then his fingers relaxed, and he dropped soundlessly into the water. The officer had snapped off his torch, but Anne and Mrs. Marshall were still blinded by the glare and failed to see him. Hidden under the edge of the buoy, Eben floated, groping among his disordered thoughts for the thread that would bring them back to order again.

Once, early in his investigations, he had put off in his canoe and paddled toward the buglight; and as he approached it he saw that the light was being used for signaling. When he drew near the signaling ceased, but a motor dory put off from the light and came obliquely toward him. He headed his canoe toward the dory to see whom it might contain; and a pistol shot had warned him away, while the dory disappeared into the night.

Anne and her mother must have been in that dory. Had Anne fired—or her mother?

The Marshalls had a motor dory at a mooring before their cottage. They had used it frequently through the summer; had made many trips about the bay. More than once he knew they had gone out in the evening, ostensibly to visit friends on other portions of the shore. But they must have been out on many other occasions. Eben thought for a moment—saw how that might have been done. The dory could have been rowed until it was sufficiently far from the Barbette so that its motor would not attract attention. Eben guessed that was the way of it.

The identification of the Marshalls as German agents solved so many puzzles when Eben thought of it; and the sickening realization that the girl he had come to love was a spy swept over Eben and left him trembling with an actual physical revulsion. He swept doubts out of his mind, lifted himself a little in the water, attuned his ears to the low conversation that was in progress on the buoy above his head.

Mrs. Marshall was speaking. Her voice was cold and precise; and she spoke with the utmost dignity.

"The transports sail from Baltimore on the twentieth," she said.

That one of the two Germans whom Eben had identified as the leader, asked: "How are you sure?"

"The fool of a Lieutenant Morse blurted it out one day!"

"Is he a fool?"

"He is a fool!"

"Does he know?"

Mrs. Marshall answered crisply: "It was my business to make sure of that. The young idiot has a responsible post; he knows the truth; and he has not enough brains to enable him to dissemble."

"You say his residence is next to your own."

"Exactly."

"You should have been able to learn other details."

"I have."

"State them."

Mrs. Marshall moved across the buoy; she stood just above Eben's hiding place. "The transports leave Baltimore on the twentieth," she repeated carefully. "They will carry two army corps with full equipment. There will be ninety-seven transports of all sizes and capacities, most of them English ships. The transports will sail in quadruple column, the columns a quarter of a mile apart. There will be a screen of destroyers on each flank of the column and a sweeping screen ahead. A large fleet of power-cruisers with guns will travel during the day between the lines of the column, and during the night will be lifted to the decks of the larger vessels. There are guns mounted fore and aft on each transport. The destroyers are armed

Turn to Page 18

Do *you* think there is no competition?

If anyone thinks there is no competition amongst the big packers he ought to go through a day's work with Swift & Company.

Let him begin at the pens when the live stock comes in; let him try to buy a nice bunch of fat steers quietly and at his own price, without somebody's bidding against him.

Let him realize the scrupulous care taken at the plant that not one thing is lost or wasted in order that costs may be held to a minimum.

Let him go up into the office where market reports are coming in — and reports of what other concerns are doing.

Let him watch the director of the Swift refrigerator fleet, maneuvering it over the face of the country like a fleet of battleships at sea.

Let him take a trip with a Swift & Company salesman and try to sell a few orders of meat.

Let him stay at a branch house for an hour or two and see the retail meat dealers drive their bargains to the last penny as they shop around among the packers' branch houses, the wholesale dealers, and the local packing plants.

And then, when the day is over, let him have half an hour in the accounting department, where he can see for himself on what small profits the business is done. (Less than 4 cents on each dollar of sales.)

If he still thinks there is no competition in the meat business it will be because he wants to think so.

Swift & Company, U. S. A.

A nation-wide organization owned by more than 23,000 stockholders

Dairying and Hog Raising

GEO. E. MORTON

Free advice on the commercial or technical features of dairy farming and hog production. Please address your letters to DAIRY DEPARTMENT, WESTERN FARM LIFE, DENVER, COLO.

Prior to his departure for Europe a short time ago Herbert Hoover, U. S. food administrator, made an announcement which is of vast importance to farmers who follow dairying and hog raising. He called attention to the fact that there exists a shortage of about three million tons in high protein feeds for dairy animals and a shortage of about three billion pounds of pork products, dairy products and vegetable oils. He says that there is a shortage in needed supplies of pork and dairy products throughout the world and that he estimates the export possibilities of the United States in these products at over four billion pounds, of which from three to three and one-half billion comprise pork products.

This world fat shortage is due primarily to the fact that Europe has been steadily under-feeding its dairy herd; has made steady inroads into its herd of hogs during the war, and to the fact that there has been a great degeneration in the production of vegetable oils in certain regions, owing to the inability to secure shipping.

Of our export possibilities in fats, the largest item is pork products. Here again we have a right to congratulate ourselves as to the policies pursued in the administration of food supplies in the United States by the Department of Agriculture and the Food Administration.

"If you consider," says Mr. Hoover, "that we have reasonable promise of ability through increased production and conservation to export seven times as much products as our prewar average, and if you consider the vital importance of this extra contribution in fats in this new war against famine, we are justified today in our every act in the stimulation of production of this commodity. While we cannot supply the world's full deficiency we have ameliorated it enormously.

"As you will recollect, eighteen months ago, when we had to define our food policies, we stated that the only hope of a sufficient production of fats and meat for the world, either in peace or war, lay in the stimulation of production of the American hog. In that direction we could obtain results in twelve months, whereas, in any other direction, years would be required for expansion of fat production. The American farmer has responded to a remarkable degree. In order to assure this change in agricultural courses we promised the farmer a fair return on his hogs, so far as our control of export orders gave us the power. It is our duty to make this undertaking good.

"Yet, with all our supplies, the world will be far deficient in its normal supply of fats for two or three years at least. Our internal policy with regard to this group of commodities must therefore be one towards intensest economy in consumption, if we are to carry out our high purpose of furnishing food to a famine-stricken world.

"Policies of conservation require great care and guidance. For instance, for the next 30 or 60 days there is barely enough shipping at our shores to take care of our current production of pork products, and our storage is deficient. Later on when ships are available, we will need call upon our people for great sacrifice. On the other hand, the shortage in our supply of dairy products is today so acute that we are compelled to now limit the export of this product. Dairy products are so vital to the protection of child life throughout the world that we should immediately reduce our unnecessarily large consumption of butter and condensed milk."

It is plain from the above statement that farmers can look for continued good demand for dairy products and pork. The remedy for shortage of dairy products that should be applied is, however, not a cut in consumption but increased production. To seek to limit consumption is starting at the wrong end, and always is accompanied by reduction of supply.—A. T. S.

Co-operative Hog Shipping

Co-operative hog shipping associations are working out very satisfactorily in Utah. A report recently received from the U. S. Bureau of Markets states that hog production in Utah is being stimulated because some of the farmers have been able, through co-operative shipping associations, to get their hogs to market. More than 100 farmers have shipped 18 carloads of hogs through the Salt Lake City stockyards during the past three months. These hogs came from sections 35 to 90 miles from a railroad shipping point and in some instances were brought in wagons by the growers to a central point where auto trucks were used to transport them to the railroad station. Others were shipped by local freight to a central point where carloads were assembled. Each lot of hogs was marked by clipping the hair, thus enabling the separation of each lot in the stockyards. The expense of shipping was pro-rated and each owner received his individual check. This co-operative marketing plan is not only resulting in increased shipments but in a marked improvement in the quality of the offerings.

Care of the Dairy Bull

Although the bull in the dairy herd is often looked upon as a necessary evil, it should not be forgotten that the calves inherit half their blood from him. M. H. Fohrman of the University of Missouri College of Agriculture says that too often the bull is housed in dark, dirty quarters and little attention given him. The bull at all times should have a proper feed, and the kind will depend somewhat upon his age. Young, growing bulls do well when fed legume hay and four to eight pounds of grain daily. A suitable mixture to be fed with clover or alfalfa hay is four parts of corn chop, one of oats, and one of bran. Older bulls, as a rule, are not as active as young animals, and there is more danger of overfeeding them. After the animal is mature he requires only sufficient feed to keep him in good breeding condition and to keep him warm. The herd bull should not be allowed to become fat, as this results in sluggishness and early loss of breeding power. See that he has an abundance of drinking water and ample opportunity for exercise.

While care should be exercised to avoid overfeeding, do not go to the other extreme in the case of young bulls, as underfeeding checks growth. Size is always a desirable quality, and it is poor economy to underfeed a growing sire. Feed him a sufficient amount of grain to furnish ample material for growth and regulate the quantity according to his appetite and condition.

BLUE RIBBON HERD

Registered Duroc Hogs and Holstein Cattle

Durocs won 26 firsts and champions in the shows this fall. The Grand Champion, Burke's Good E. Nuff, again heads our herd, assisted by Big Cherry King, first at Pueblo and sire of all first prize futurity pigs and litters at Pueblo, 1918. Get the winning blood.

The Blue Ribbon Live Stock Co.

C. F. Burke, Manager, Pueblo, Colo.

Carey-ized

STOCK TONIC BRICK BLOCK

Relieve yourself of worry about the health of your live stock; do away with the troublesome, uncertain dosing and drenching. Your animals will "doctor themselves" as instinct directs when they have access to Carey-ized Stock Tonic Block or Brick.

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This broad guarantee protects you perfectly and relieves you of all risk. Ask your banker concerning our reliability.

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Insure your hogs, cattle, sheep and horses against worms and disease, against imperfect, wasteful digestion, slow fattening and low prices in late markets. Let your animals have access to Carey-ized Stock Tonic, supplying them in pure form with the tonic and mineral substances they crave and demand for sound health, quick, rugged growth and complete feed assimilation.

Carey-ized Stock Tonic is compressed to a density that weather and time can not weaken in medicinal strength. It is manufactured in 3-pound bricks for stall and pen feeding, and 50-pound blocks for pasture, range or feed-lot purposes. Just place it in your feed boxes or feed lot—animals partake of it as nature demands without bother to you.

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Carey-ized Stock Tonic Block and Brick are composed of sodium chloride (salt), iron sulphate, quassia, powdered gentian root, carbonized peat, sulphur, charcoal and bi-carbonate of soda—all the best known, highest recommended tonics, minerals and worm destroyers of greatest veterinary authority.

Sold by General Stores, Feed and Hardware Stores, Druggists and Grocers, under our guarantee and 60-day trial offer as above outlined. If your dealer can not supply you, send us his name (no money) and we will send him for you 12 bricks, 35 pounds, at $2.50 f. o. b. Hutchinson, or a 50-pound block $3.00. Or, if you prefer, send us the amounts (P.O. order or check) and we will send you the goods direct, freight charges collect. If at the end of 60 days you are not satisfied, having fed according to directions on the wrapper, we will refund all your money, including all freight charges.

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Dept. 251 Hutchinson, Kansas

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.....sheep,.....horses.

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Parker Sells Grade Guernseys

CONFINES OPERATIONS TO PUREBRED CATTLE

MORE than fifty high-grade Guernsey matrons left the H. D. Parker herd at Greeley on November 11 for new homes, being scattered over Northern Colorado and Western Nebraska, as a result of a successful sale. To be exact, the average on 52 cows was $168 per head, while matured heifers averaged $100. These prices are low, when the quality of the offerings is considered. Most of the cows had milking records of 35 to 40 pounds a day and a few were better, for example, the high cow of the sale, Speck, who, when at her best, will give 50 to 60 pounds daily. She brought $315. High production is characteristic of all the Guernseys in the Parker herd. It is a point Mr. Parker has sought in breeding and accomplished to a remarkable extent.

Like many other breeders, the war forced him, through labor shortage and other circumstances, to cut down his herd. He therefore decided to dispose of every grade animal, retaining only the purebreds. For twelve years he has been building up, and this process has been accompanied by the severest sort of culling, all individuals shown by the records to be non-profitable going to the butcher. His own breeding has been supplemented by purchases from the best Guernsey herds of America, in New York, Iowa and Wisconsin, giving him a purebred herd that easily outranks any of that breed in the mountain states, and a lot of grades that will fit in anywhere as foundation stock for herds, or as commercial producers of milk and calves. These grades were disposed of at the sale, which happened to fall on the day that witnessed the signing of the armistice. In spite of this event of world interest, there was a fine crowd of farmer buyers at the sale. Several county agents came with farmers to help make selections. One lot of cows went to Sedgwick county, the delegation from there being piloted by County Agriculturist W. J. Ott; another lot went to Arapahoe county, the selection being guided by County Agriculturist Walter A. Groom. Other counties that shared in the purchases were Boulder, Larimer, Logan and Weld, with several good animals going to Scotts Bluff, Neb.

The heifers were snapped up greedily, being sold in pairs and sometimes by threes and fours. They ranged in age from 8 months to 2 years, the mature animals selling reasonably well, but the younger stuff showing little demand, with consequently low figures. Nothing was held back and no time was wasted in waiting for higher bids, when the buyers were disposed to go slow. "Everything goes," was the motto, and while this policy did not help Mr. Parker's pocketbook, it has been of great help to the breed by insuring a wide dispersal of good Guernseys. The sale will mean a bigger future market for the breed, because the man who has only one or two or three animals will soon find himself ready to establish a herd.

There are three magnificent sires at the head of the Parker herd, and in view of the dispersal of so many females, the owner was in a mood to sell one of the bulls. Holden's Glenwood Boy, 28978, was led into the ring for showing, with the invitation to farmers, if they felt so disposed, to make an offer on the bull. Nobody seemed in want of any blueblood. The other two sires are Langwater Royal 4th, 19331, and Allenwood Prince, 28-147, both notable examples of the breed, tracing their ancestry back to Guernsey and Alderney islands purple.

Mr. Parker has no thought of going out of business. He announces that this sale has given him opportunity to give more intensive attention to his purebreds, and he will increase his herd and be prepared in future to take better care of demands for registered stock.

About forty head of pigs, a few head of grade Shorthorns and Holsteins, some dairy equipment, and a set of tenants' farming equipment were disposed of to the highest bidder.

Following is a list of the mature cows sold, together with name and location of buyers:

Name of Cow.	Sold for	Shipped to
Fay	$155.00	A. E. Butler, Greeley, Colo.
Dandy	155.00	" " " " "
Nubbins	185.00	" " " " "
Ina	100.00	" " " " "
Heck	80.00	Wm. Collins, Greeley, Colo.
Pet	100.00	" " " "
Pine	165.00	" " " "
Mary	275.00	G. R. Carlson, Eaton, Colo.
Mollie	125.00	" " " " "
Daisy	145.00	W. D. Emery, Boulder, Colo.
Susanna	220.00	" " " " "
Lady	210.00	" " " " "
Ross	155.00	" " " " "
Dolly	205.00	" " " " "
Bob Crook	200.00	" " " " "
Buss	200.00	L. C. W. Gavin, Eaton, Colo.
Vivian	215.00	" " " " " "
Bob	140.00	F. Granberger, Sterling, Colo.
Ann	160.00	J. G. Gordon, Bennett, Colo.
Peake	127.50	W. F. Stafford, Julesburg, Colo.
Lizzie	180.00	C. M. Harris, " "
Indian	87.50	" " " " "
Whitey	100.00	" " " " "
Marie	122.50	" " " " "
Hattie	97.50	" " " " "
Teats	97.50	" " " " "
Duff	160.00	A. L. Kelly, Nunn, Colo.
Stubbs	165.00	" " " " "
Garder	190.00	L. R. Leonard, Scotts Bluff, Nebr.
Bonita	155.00	" " " " "
Wilber	175.00	J. I. Lewis, Willard, Colo.
Lee	170.00	" " " " "
Shorty	120.00	" " " " "
Grace	227.50	" " " " "
Echo	205.00	C. W. Lothrop, Denver, Colo.
Lucy	210.00	" " " " "
Mina	227.50	" " " " "
Bill	160.00	" " " " "
Swartz	125.00	" " " " "
Pearl	182.50	Gaber Lucas, Platteville, Colo.
Speck	315.00	" " " "
Tiney	170.00	C. V. Owens, Eaton, Colo.
Beauty	125.00	" " " " "
Lucky	155.00	L. B. Sherred, Denver, Colo. / A. H. White, Denver, Colo.
Diamond	255.00	Mrs. J. H. Setzler, Ft. Collins, Colo.
Valley	115.00	F. A. Slayton, Ft. Collins, Colo.
Tillie	190.00	Fred Stevenson, Greeley, Colo.
Lady Bug	175.00	Mrs. S. H. Todd, Greeley, Colo.
Pumpkin	137.50	C. W. Work, Greeley, Colo.
Blanch	110.00	E. Watts, Greeley, Colo.
Olive	137.50	G. W. Waldo, Hungerford, Colo.
Ada	85.00	A. D. Wilson, Gill, Colo.

English Favor Dual Purpose

Breeders of milking Shorthorns will be much enheartened by the new record established in England for auction offerings of this type. The average of the Hobbs cattle was $1,062, which runs closely on all fours with the record average on this side. The 44 cows and heifers among this offering of 68 head ran up an average of $1,395, without the aid of any exceptional bids. The top was $2,750. A big demand is in evidence for the beef-and-milk type of this breed, the old-fashioned, table-backed, big-uddered Cumberland cows coming in for a decided revival in favor. Our London correspondent announces that "Milking Shorthorn bulls are being asked for all over the world." —Breeders' Gazette.

2 to 1

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See the nearest De Laval agent right away and let him show you what the De Laval will save for you. If you do not know the De Laval agent, write direct for any desired information.

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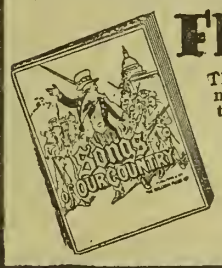
is controlled from the *pedals*, the point where you instinctively try to put your natural musical feeling into the playing of the instrument. Each pedal stroke does not merely make certain notes strike, but it makes them sound with the exact volume and accent which your musical feeling desires. The force and style of the stroke are transmitted from the pedal to the piano strings as the striking of the artist's fingers is transmitted from the keys to the strings. It is as if you were in *direct contact* with the piano action, so sensitive is the Manualo mechanism to your every wish.

The Manualo is built into four standard instruments of the House of Baldwin, the Baldwin, the Ellington, the Hamilton and the Howard. The price varies with the price of the piano. The immense production of the House of Baldwin factories at Cincinnati and Chicago insures your getting the highest value player-piano at whatever price you pay.

Before you buy a player-piano, ask for "The A B C of the Manualo", giving complete information on the development of the player-piano and explaining in detail why the Manualo will give you continuous satisfaction.



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Farm Home Department

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

Christmas Cheer

There is an old song we used to sing with lines in it something like this: "Oh, happy Christmas, the holiday time, The time of good feeling and glee, Bright red berries on the green holly bough, The time for all sorrow and sadness to flee."

This year of all years there is certainly truth in that last line. For the first time in fifty-one months, this old world is really trying to have peace on earth, good will toward men. If somebody doesn't get busy and hang the Kaiser before the twenty-fifth it would be rather difficult for most of us to have good will toward all men—but the "all" isn't in the original text, because the Lord knew our limitations.

He does tell us to be of good cheer, however, and it's a duty we surely owe the world now. There is much grim work to be done in the lands across the sea. Anxiety and sorrow are in many places. Very few of our boys will be at home for Christmas. There must be a whole heap of cheerfulness in order to make the right sort of Christmas. It's your work and my work to begin rolling up as much of the cheer as we can in smiles, jolly letters and anything we can think of to bring real cheer. It doesn't mean hilarity that shows mainly in disturbing the peace, but gladness that comes from a down-in-the-heart rejoicing. Come on—let's smile for everybody.—Erma Douglass.

Thought and the Gift

From many sources we have had the suggestion, "Let's make this a 'giftless' Christmas." The idea is a good one and really needs to be carried out as a check upon useless expenditures for just presents. But don't let's lose the spirit of the Christmas and make it a "thoughtless" Christmas as well as a giftless one. That isn't what the maker of the suggestion meant, anyway.

There are, in all probability, people you have been wont to remember with a small gift, not particularly necessary, not exactly useless. Those people mean a certain touch of friendship to you and you should show them still that they are in your thought. But a postcard, a little letter expressing your real feeling will mean just as much, perhaps more, than the gift of other years. People need the fellowship of each other kindly, unselfish thought more than they ever needed it before, for this Christmas the whole world is kin as it never war before.

There are still those people for whom in your mind a postcard will not do. There is more than a touch of friendship between you and you want to make it a real gift. Then use all your ingenuity and make it a real one that they will use with the same kindly thought of you that you had in preparing it for them.

There are countless things which are very nice to give as presents, but there is only one real gift from friend to friend and that comes from an intimate knowledge of what the other really needs.

For the children, the absolutely useful may be dropped and one or two simple toys be given. The Junior Red Cross people have planned some very clever though simple home made toys. Most of these are quite substantial. If you have an ambitious Junior Red Cross in your neighborhood, they might find a way to make a number of these and hold a little exhibit and sale of them, making a small sum for themselves and furnishing a real traffic saving toy market.

Whatever you buy, purchase and mail very early, for there is not the extra force of postal clerks that used to be available, and if you are using seals, use the Red Cross ones wherever you can.

The old slogan of "Do your Christmas shopping early," can be changed this year to "Do your Christmas thinking early," and remember that a real thought from you for the need of someone else either through a word or gift, is the best real gift you can make.—Erma Douglass.

KNIGHT-CAMPBELL'S GREAT HOLIDAY BARGAIN SALE

OF PIANOS AND PLAYER-PIANOS

New and Slightly Used Instruments of the Highest Musical Excellence and Well-Known MAKES

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Recipe for Sugarless Candy

It is not very likely that the sugar ban will be lifted before December 25, and if it is, we know sugar is needed elsewhere. This recipe given below is a very simple one used by a neighbor and may be changed in several ways to make a variety:

1 cup honey.
2 cups corn syrup.
½ cup vinegar.
1 large tablespoon butter.

Boil honey and corn syrup together until it begins to thicken. Add vinegar and last of all the butter. For taffy, boil until a little of it dropped into a glass of cold water will pop away from the bottom. For caramels, boil until a very firm ball is obtained, and for a brittle boil until it snaps against the side of the glass or tin cup you are testing it in.

Cocoa and vanilla may be added. Cocoanut and chopped nuts all make splendid candies, quite enough to satisfy our sweet tooth.—E. D.

Using Surplus Apples

Every surplus fall apple has in it possibilities for winter desserts or relishes. With the drain on transportation during the coming winter likely to make the importation of fruits more difficult, the pantry shelf should be well-stocked with local, home products preserved in some form, as jelly, conserve, juices, or dried.

Canned fruit, canned tomatoes, dried fruit and bottled juices may be made into winter preserves. Let nothing go to waste at this season; pumpkin, squash and carrots combine well with fruit in the making of jam. So can any surplus that can't be taken care of in other ways.

Apple and Carrot Conserve

Carrots, ground or diced, 1 quart.
Tart apples, diced, 1 quart.
Oranges, sliced, 2.
Syrup, 2 cups.
Salt.

Cook the carrots in sufficient water to cover them, until they are tender; do not drain them. Add the other ingredients, and cook the mixture until it is clear.

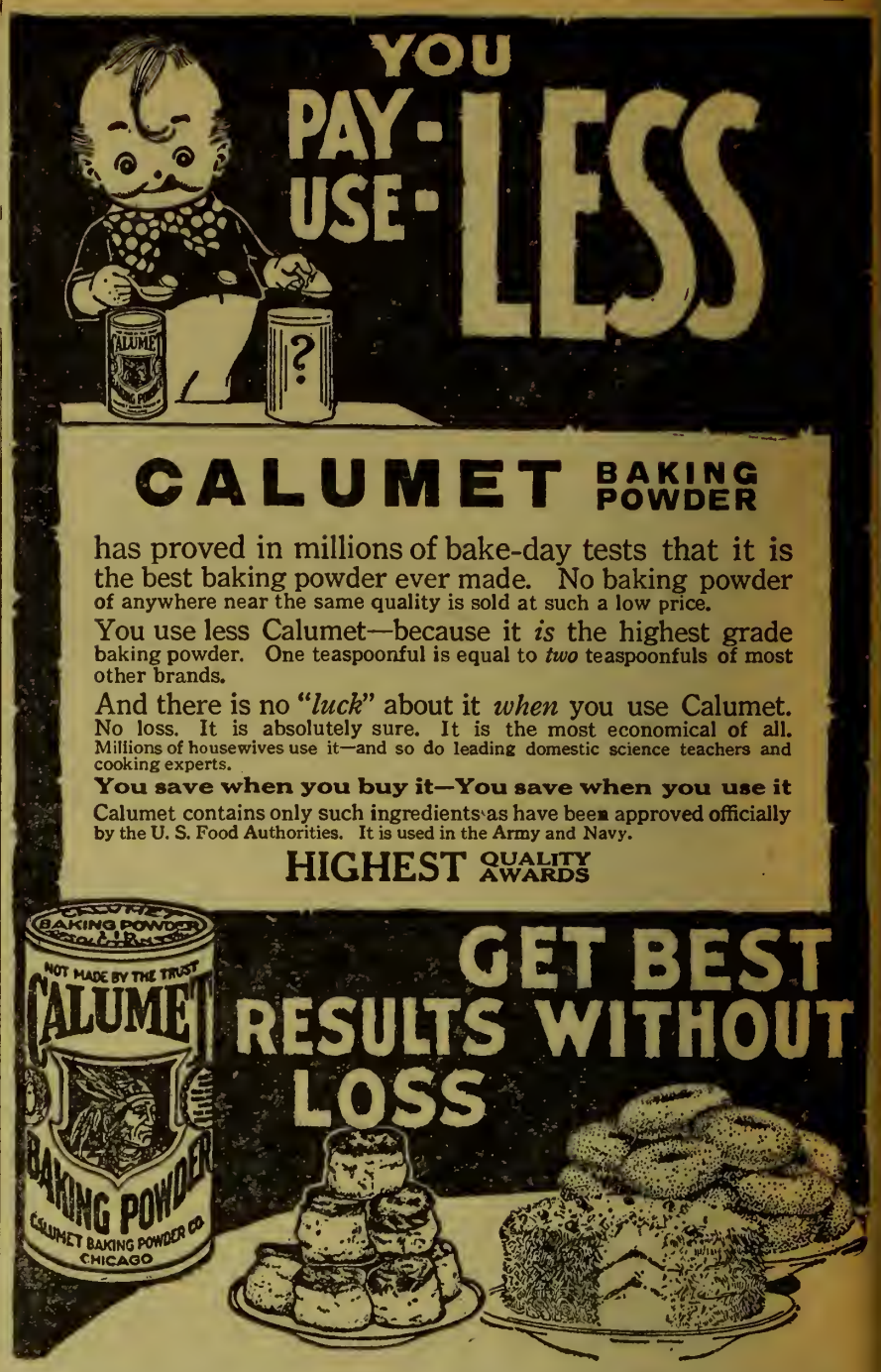
Apple and Beet Conserve

Tart apples, diced, 1 quart.
Beets, diced, 1 quart.
Syrup, ½ cup.
Juice of 1 lemon and chopped rind if desired.

Pare and dice the beets. Cover them with water, and cook them until they are tender. Remove the cores from the apples and dice. Add the apples, syrup and lemon juice to the beets, and cook the mixture until it is clear. Instead of storing the conserve in jelly glasses, it may be spread on a platter and dried in a slow oven or in the sunshine. It should then be packed between paraffin paper in containers that will be free from dust and insects.

Candied Apple

Select firm and perfect apples. Apples may be prepared by cutting in eighths or in circles. Any syrup may be used, sorghum, cane, corn or maple syrup or honey. Heat to the boiling point and add apple sections. Cook very slowly until almost tender. Set aside for 24 hours. Then reheat and cook very slowly until tender. Cool slightly, drain completely in strainer or on fork and roll or dip in finely chopped cocoanut. Use as a confection or for a dessert. The process may be completed in one day, but fruit is not as candied. Other fruit may be prepared in the same way.



PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2672—Simple, Easy-to-Make Apron. Good for seersucker, gingham, drill, lawn, percale, sateen and alpaca. There is nothing cumbersome or uncomfortable about this style. Cut in 4 sizes: Small, 32-34; medium, 36-38; large, 40-42, and extra large, 44 and 46 inches bust measure. Size medium requires 4 yards of 36-inch material.

2663—Waist. 2671—Skirt. A Pretty Afternoon Dress. Comprising Ladies' Waist 2663, and Ladies' Skirt 2671. Taupe color satin charmeuse with a lighter shade of georgette crepe for sleeve and vest, would be nice for this. The vest could be embroidered in self color worsted or beaded. Waist pattern cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Skirt pattern is cut in sizes 22, 24, 26, 28, 30, 32 and 34 inches waist measure. It will require 8¾ yards of 36-inch material for a 38-inch size for the entire costume. Width of skirt at lower edge is about 1⅞ yards. This calls for two separate patterns.

2342—Dainty Dress for Mother's Girl. Batiste, voile, charmeuse, satin, taffeta, velvet, serge or gabardine could be used for this model. The tucks on the skirt may be omitted. The dress may be finished without the bolero and with long or short sleeve. This style lends itself nicely to combinations of material. Cut in sizes 6, 8, 10 and 12 years. Size 8 requires 4 yards of 36-inch material.

2348—Good Style for Growing Girl. This style is fine for all wash goods, for silk, for satin, serge, gabardine or velvet. The right front overlaps the left at the closing. The sleeve may be finished in wrist or elbow length. Cut in sizes 8, 10, 12 and 14 years. Size 12 requires 4 yards of 44-inch material.

Picking Everbearing Strawberries in November

Continued from Page 5

even then if the freeze comes with a snow, the berries will come out again in good shape with sunshine and warm weather later. A dry freeze, however, usually settles them for the year.

Mr. Salladay's patch is planted on gravelly loam soil which he fertilizes by applying manure. Direct irrigation is applied and the plants get large quantities of water at fruiting time in order to keep them bearing heavily. He keeps the runners trained to the rows, so that the irrigation water can be applied in the rows when needed. He does not cover the plants in winter, stating that mulching is unnecessary and more apt to cause damage than otherwise. Mulching, he says, will smother the plants, which are hardy enough to withstand Colorado winters. Plants will dry out and die, but will not freeze out easily. The only use he would have for a mulch, if he used it, would be as a fertilizer.

He sells berries to Denver commission houses and has an unlimited market for all he can produce.

Profitable Farm Poultry

W. E. VAPLON

Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

Read it very carefully—especially you beef growers, but don't get frightened, yet. Since the beginning of time there have been prophets and seventh sons of prophets, and who knows but the writer of the following article be one of these. We in the big West may feel that there is no danger of crowding; that as long as we live there will be some range and plenty of room to grow feed economically for beef; the pioneers of yesterday, and there are many among us yet, felt only a few years ago that they, at least, would never see the range fenced up, and now where is there any range not fenced up or reserved? We are living in mighty fast times, and tomorrow may see many of us devoting our time to producing the small meat unit, even as European countries have been forced, by reason of dense population, to get away from the large meat unit.

Anyway, the farmer cannot afford to neglect this great source of food supply any longer. The saying, "Every dog has his day," is to be fulfilled and the hen is coming into her own whether we will or no. The farmer who stands on his dignity and slanders the old hen now is going to be the loser. That she has not paid a big dividend is his fault, not hers; good care and intelligent management will pay as never before; two-dollar wheat may continue for awhile, but corn and oats and barley and forty other things are going to be available for economical egg production and the supply will not soon be up to the demand at good prices. Never, in our opinion, will we again see fifteen-cent summer eggs or thirty-five-cent winter eggs.

I am referring to a statement made by Dr. Raymond Pearl, biologist and poultry instructor for the Maine Agricultural college, now chief statistician of the United States Food Administration. He is a world famous authority on poultry culture. His statement, which follows, was first published in the Reliable Poultry Journal. It should be read by every farmer and farmer's wife, as it is introductory of a number of articles to follow in Western Farm Life during the winter, analyzing the farm poultry business in this territory, and making suggestions that, I hope, may lead to more profitable poultry production for all of us:

During the past year in the midst of my work with the Food Administration, which in general took me far afield from poultry matters, I have noted iwth great interest and gratification the awakening interest and enthusiasm on the part of poultry breeders throughout the country in developing better strains of layers.

This has been gratifying to me on two accounts: first, because of the fact that for ten years at the Maine Agricultural Experiment Station I devoted my main attention to the scientific study of the problems of improving egg production by breeding. This work met at the outstart with very little encouragement from the practical breeder. Now that condition of affairs has changed very markedly.

In the second place, I have been gratified because my work in the Food Administration has put me in a position to realize how acute the food problem may become under certain circumstances, and also the studies we have conducted here have made it increasingly clear that the day of the large unit, such as the beef animal, in the production of necessary foods of animal origin, is rapidly passing. The steer is too uneconomic a transformer of energy to last long as a chief source of animal foods for mankind. The war has very much accentuated this development and has turned our attention to the relatively greater economy in production of smaller units, such as poultry.

With the steady increase in population, in proportion to the habitable area of the earth, there is bound to be a turn more and more towards the smaller animal unit as a producer of food. Among all such animals poultry is pre-eminent, but in order to maintain this position we must have highly developed poultry.

As a result of the studies of a number of workers, notably Professor Dryden, Professor Rice and Professor W. R. Graham, we know now a great deal about how it is possible to improve the laying qualities of poultry. All that is needed now to make this knowledge bear fruit is to get it across to the breeder in such a way that he will first of all realize that he must have high producing units if he is to stay successfully in the business, and in the second place if he will devote the same degree of foresight, care and pains to his breeding and feeding that any successful manufacturer devotes to his business, it is a simple matter to get high laying strains of poultry.

Dugout as Chicken House

I am building a new chicken house. Made a dugout in the hillside and now I intend to make the back and the end walls of concrete and the front of boards with windows. Will this be good housing fer chickens? Our hens have nearly quit laying, although we are feeding them good. We feed cracked corn and whole wheat straw that hasn't been threshed, and sour milk. Will it be advisable to give them a tonic of some kind?—F. C., Pueblo county, Colo.

If the building you are contemplating faces the south on a hillside you are indeed fortunate in your location. The shape, size or type of your house matters comparatively little providing the following conditions are furnished: first, shelter from storm and wind, which means a tight house on the north, east and west and naturally a tight roof. Second, a sunny exposure which necessarily means a south front. We have seen many houses in Colorado built facing the east, but also notice that in long, wet spells of weather these houses are damp, as they get very little sunshine in the winter time when it is most needed. Third, plenty of room for the number of fowls kept, so that exercise may be furnished during the bad weather of winter and during windy and rainy weather at any time of the year. There can be no real success in poultry keeping where fowls are crowded into a house and have not sufficient room and sufficient exercising place during bad weather. The height of the house is immaterial, but necessarily must be convenient for the caretaker. I would suggest that you put a small window in each end of the house, fixing them removable for summer and so they can be tightly closed during the winter. I should place these windows half the way back from the front, so as to make it as light as possible during dark days.

The material you are planning to use is all right and should make a very substantial, good house, but would suggest that you make the walls thick enough, or paint them with concrete so that they are watertight.

As to your hens not laying, this is just as natural as that a cow should be dry a certain length of time during the year. Your hens will probably furnish you no more eggs until late winter or early spring, so would suggest that you save as much feed as possible, not denying them enough to keep in good physical condition, but certainly not forcing them for egg production. If your hens have laid fairly well until the present time they have done better than the average, as generally they begin to fall off in eggs any where from August on. The secret of winter eggs is in the early hatched pullet, and if your pullets are not now well developed and mature and getting ready to lay you will probably have few eggs until the hens start in again.

It is certainly not advisable to feed any sort of tonic to healthy fowls, and if you furnish a variety of grain with plenty of exercise, and milk as you suggest in your letter, your fowls should be in good physical condition and need no dope of any kind. So far as I know there is no virtue in any of the egg tonics, except as stimulants. We are sending you some bulletins on housing from which yon can get some good ideas as to interior arrangement.

Mr. Skunk Enters Society

For at least a hundred years, probably more, but that is as far back as we can remember, the skunk has been one of the most despised and feared animals that roamed the woods, but no more. You will see him in all the cities of this country and Europe, proudly exhibited by his mistress in the street cars, automobiles, theatres, operas, picture shows, in fact everywhere you see fashionably dressed women. "There's a reason."

There is no more beautiful fur than the lovely, silky black skunk. The name is not beautiful and has long been connected with things unpleasant, but this is also changed. In Europe the fur has been sold for years under its rightful name, but in America, our mothers, wives, sweethearts and daughters would promptly elevate their nose at the mere mention of its name, so it was necessary to re-christen Mr. Skunk after he had been skinned. This was when the skins sold at from 25 cents to one dollar and was considered a cheap fur.

In the past few seasons, since the skins have sold readily at from $3 to $6, and even as high as $10, Milady is glad to show her set of skunk furs to her probably less fortunate neighbors.

The trapper is the one that reaps the real benefit from this change, and the real big money is coming to him this year. There is a great demand for these skins, and we do not believe

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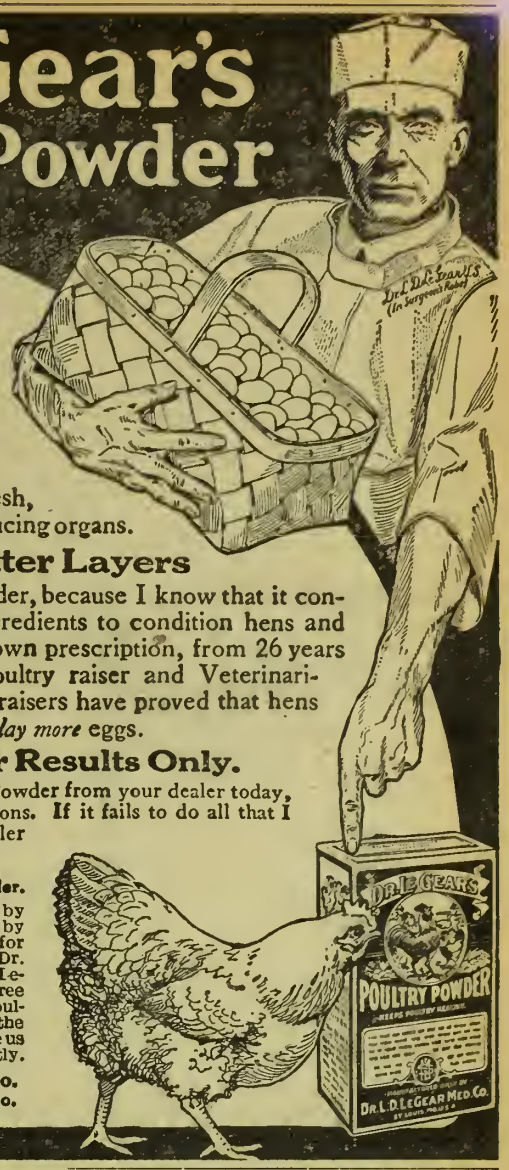

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there are enough trappers left in the country to supply this demand, so it is up to the men that can follow the trap line to get busy.

The skunk is a very easy animal to trap and there are numerous methods of catching him. They are entirely too lazy to build dens of their own, so they usually take possession of already built dens, hollow logs, etc. When you can find their dens, it is only necessary to set your trap at the entrance baited with tainted meat of any kind, cover your trap very lightly and you will get him. Where dens cannot be found, make some by digging a hole under a stump, rock or something of that kind and place your trap right in front of the entrance.

Mr. Skunk is easy to get and easy to sell at high prices, which makes him worth while to the trapper.—D. B. Silberman.

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Trapped

Continued from Page 13

with guns, bomb nets and bomb trailers."

"How many destroyers?" the commander barked.

"One hundred and seventy will leave the Chesapeake with the transports and convoy them as far as the banks. Then the entire convoy will return to the bases here, and only the chasers will accompany the transports. The other convoy will meet them two days out from Liverpool and escort them in."

The German laughed triumphantly. "We shall wait for them on the banks," he boasted.

For the first time the girl spoke. Eben had been waiting for her voice to confirm his recognition of her in that flash of the torch. It came with a damning clearness.

"We shall destroy them," she said quietly.

The officer's voice was deferential. "With your help—yes," he replied.

"I wish I could be with you."

"Unfortunately there is no place for charming young ladies upon a submarine. It is one of the hardships of our existence."

Mrs. Marshall said: "Anne has been wild to take a hand in it all."

"I hope you sink every transport," the girl said harshly.

"I hope we shall," the German echoed. "Even though we all go down with them."

"You won't! I'm sure you'll come through it safely and triumphantly."

"And I."

"You're sure you'll have enough submarines to do it?"

"There will be twenty-five here within three days—and we carry, each one of us, the blinding searchlight."

Mrs. Marshall said quickly: "What is that? I had not known."

"The searchlight that enables us to see, while at the same time a newly discovered ray in its beams temporarily destroys the sight of any one who faces it."

The girl cried out softly with horror; and the German demanded a little harshly: "You regret that, young woman?"

"I'm so sorry for men who are blind."

"They will not be blind for long," said the commander grimly.

"You will attack at night, then?" Mrs. Marshall asked.

"Naturally. The daylight gives them an advantage; and also the sun's rays destroy the properties of our searchlight." He uttered an impatient exclamation: "But there is no more time. You have told us all there is to be told?"

"All. Is it not enough."

"Ample, madame. One thing more: Do you fear that we will be discovered—that our presence here is suspected?"

"Vaguely, perhaps. There was a man, a lame man, one Scour. I set Hobart and this Morse upon his heels—and he has disappeared. I mistrusted him."

"He is gone?"

"They pursued him into the water—and he never returned to the shore."

There was a moment's silence—then a quick movement. "No matter," growled the officer. "It is now the fourteenth. Within four days our mobilization here will be complete. The other plungers are scattered along the coast and on the Banks supplying their needs from our fishing schooners. They will report here, then go out to intercept this fine new army. All within four days. The suspicions on their part must become certainties very quickly if they are to hinder us." Eben heard his feet scrape on the steel of the buoy. "Hoff, haul the dory alongside."

The other man stirred; the dory scraped against the buoy. There were farewells; and the craft racketed away into the night. The other motor boat had circled the buoy ceaselessly throughout this conference. It returned, took off the officers, departed.

Eben climbed lightly on the buoy. He was cold, chilled to the bone with his long immersion; and he was weak and sick with the discovery of Anna Marshall's part in these affairs. He sat for a space upon the buoy, watching through the dimness of the night, while the slender shape of the waiting submarine picked up the motor boat and departed; and then he rose and began slow calisthenics to work the blood back into his limbs.

And as he swung his arms and bowed and knelt and contorted his slender body, his thoughts were busy; and now and then he frowned, and now and then he scowled, and once, when he remembered how they had spoken of Eben Scour, he chuckled; and another memory won another chuckle to his lips.

After a time he was ready to return to the monument; and he slipped into the water and made the swim swiftly. It was long past two o'clock; but Eben made haste slowly with the thing that was next to be done. He dressed himself, ate, slept for an hour; and then, as the eastern skies turned red and angry at being wakened by the coming sun, Eben climbed into the light chamber, and with his coat held against the lens, obscured the flashing light for three alternate times, waited through five flashes, and then repeated his signal.

Half an hour later, in the growing light, he saw a submarine chaser coming toward the light from behind the island across the bay; and ten minutes after he first sighted it it had sent a boat to fetch him.

He dropped down the latter into the craft, gripped the hand of the man who greeted him. "Hello, Carl," he said quietly, "I've got it!"

The young officer grinned. "'Ataboy, Eben!" he praised. "Where to, James?"

"The base—and go by the back way, Carl."

The officer nodded; the boat touched the chaser's gray flanks. They were hoisted aboard; and the fast little craft turned to pick its way southward.

(To be continued.)

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MEMBERS RAW FUR MERCHANTS' ASSOCIATION
115-123 West 29th Street (Desk 29), New York

Farmers' and Stockmen's Exchange

FARMS AND RANCHES

Advertisements under this head will be inserted at 5c a word, four or more insertions 4c a word each insertion. No display type or illustrations admitted.

GOOD DRY LAND FOR SALE. Address Box 172, Sedgwick, Colo.

WANTED—TO HEAR FROM OWNER OF FARM or unimproved land for sale. O. K. Hawley, Baldwin, Wis.

IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, 33rd St., Chippewa Falls, Wis.

FOR SALE—FIRST CLASS IRRIGATED FARM, 226 acres near Denver. Terms reasonable. Address J. G., Western Farm Life.

I HAVE CASH BUYERS FOR SALABLE farms. Will deal with owners only. Give description, location and cash price. James P. White, New Franklin, Mo.

WANTED TO HEAR FROM OWNER OF GOOD farm for sale. State cash price; full description. D. F. Buah, Minneapaloa, Minn.

REAL ESTATE WANTED—Sell your property quickly for cash, no matter where located, particulars free. Real Estate Salesman Co., Dept. 11, Lincoln, Nebr.

ATTENTION, LAND SEEKERS—THE FINEST grazing and farming land in the state of Colo., from 20 to 50 miles from Denver. Can be bought at $15 to $25 per acre; good terms. Write us for particulars. The Parker Land & Cattle Co., Parker, Colo.

I OWN AND HAVE FOR SALE ONE OF THE best ten-acre tracts, located close in, improved with five-room house, all kinds of chicken houses, three chicken yards, well set to alfalfa, incubator cellar 30x60 feet plastered. Over four hundred dollars of alfalfa sold off place this year, well windmill and supply tank, water piped to yard and garden. Price $4,500, $1,500 cash, balance three years at six per cent; no trades. Wright J. R. Anderson, Fort Morgan, Colo.

POULTRY

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SINGLE COMB BUFF LEGHORN COCKERELS. Prices reasonable. T. F. Roberts, Osawatomie, Kans.

THOROUGHBRED LIGHT BRAHMA COCKerels. E. Grosser, 2240 Perry St., Denver, Colo.

ROSE COMB RED COCKERELS FROM WINning Stock Show strain. C. E. Dewey, Fort Morgan, Colo.

BUFF LEGHORNS—BEST LAYERS ON EARTH. Breeding cockerels. Champney, 25 S. Logan, Denver, Colo.

PURE BRED, YOUNG BARRED PLYMOUTH Rock Cockerels, $2.50 each. Mrs. John Shearer, Frankfort, Kansas.

FOR SALE—WHITE WYANDOTTE COCKERels, hens and pullets. Prices reasonable if taken now. Mrs. Geo. Wheeler, Route A, Otis, Colo.

HEAVY LAYING TYPE SNGLE COMB RHODE Island Red Cockerels, line bred for sixteen years. Lower's Poultry Farm, Arvada, Colo. Free catalog.

BUFF ORPINGTON COCKERELS FOR SALE, from high-producing birds. Prices low if taken soon. W. M. Shirley, 3934 S. Bannock St., Englewood, Colo.

SINGLE COMB WHITE LEGHORN COCKerels from Tancreds famous special trapnested strain, egg records 217-255. Blakeland Farm, Littleton, Colo. Phone Littleton 148R2.

BARRED PLYMOUTH ROCKS—A CHOICE LOT of cockerels of both the light and dark lines. Bradley and Latham strains—none better. Price $3 and up. Chester Blunt, Route 1, Greeley, Colo.

PULLET SALE—TO MAKE ROOM, I WILL sell during the month of December, 16 dozen of my fine Barred Rock pullets, February and March hatches, at $35.00 per dozen, also one dollar off on all cockerels during this sale. J. R. Anderson & Son, Fort Morgan, Colo.

SHANK'S ORPINGTONS—S. C. BUFF—GREAT layers—great winners. Utility and exhibition stock for sale. Get my prices and state your requirements fully. A pleased customer or no sale. F. M. Shank, Route 2-A, La Junta, Colo., State Vice-President National S. C. Buff Orpington Club.

FOR SALE—ONE HUNDRED BARRED ROCK cockerels Our barred rock cockerels are raised not only from prize winners but the best of layers; breeding stock at $5 each; prize winners at $10 to $15 each. Write J. R. Anderson & Son, Fort Morgan, Colo.

COLUMBIA HATCHERY—WE CAN SUPPLY you with all leading varieties of cockerels for next spring's breeders, also ducks, drakes, turkeys and geese. Prices certain to advance in the fall, as there is no doubt of a shortage of breeding stock. Write for prices and kind wanted. P. O. Box 1102, Denver, Colo.

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CATTLE

REGISTERED JERSEY MALES FINANCE INterest, noble of Oaklands breeding. Jas. S. Taylor, Fowler, Colo.

FOR SALE—HIGH GRADE HOLSTEIN OR Guernsey heifer calves. $24.00 crated or $30.00 express paid. Herbert Taft, Whitewater, Wis.

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REGISTERED, BIG TYPE DUROC JERSEY hogs for sale. Edgemer Farm, Littleton, Colo Caldwell Martin, Owner.

A FEW BIG TYPE POLAND CHINA REAL herd boars left, spring gilts all sold. W. J. Peterson, Seibert, Colo.

BIG TYPE MULEFOOT SPRING BOARS, BRED sows and pigs at weaning time, priced to sell. Sinn's Mulefoot Ranch, Alexandria, Neb.

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EXCELLENT YOUNG PEDIGREED BUCKS, Flemish $3 to $7, Belgians $2 to $6, New Zealand $2.50 to $6.50. Also splendid young utility Flemish pairs $4.50, trios $6.00. Blakeland Farm, Littleton, Colo. Phone Littleton 148R2.

THOUSANDS GOVERNMENT JOBS OPEN TO men, women and girls. $95 month, quick increase, short hours. Common education sufficient. Write immediately for list of positions open. Franklin Institute, Dept. Y172, Rochester, N. Y.

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BEE SUPPLIES OF BEST QUALITY. SEND for 68-page illustrated catalog. We also sell Comb and Extracted Honey. The Colorado Honey Producers' Association, Denver.

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KODAKS, CAMERAS, PHOTO SUPPLIES—Ford's the best kodak store, 1029 16th St opp. old P. O., Denver, Colo., for Eastman Kodaks, all makes cameras, films, photo supplies develop any size roll film, 10c; print pictures 3c each and up; mail orders solicited; kodak and camera catalog mailed free upon request. Mention this paper.

SEEDS

CHOICE WHITE SWEET CLOVER FOR WINter sowing, reasonable. John Lewis, Madison, Kans.

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INVENTIONS COMMERCIALIZED. CASH OR royalty. Adam Fisher Mfg. Co., 204, St. Louis, Mo.

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TIRES—FORD, $6.50. LARGER SIZES ACcordingly. Lowest tube prices. Write for booklet. Economy Tire Co., Kansas City, Mo.

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Choice, high-grade, beautifully marked heifers or bulls, 5 weeks old, $20.00 crated f. o. b. cars. Write

W. C. KENYON & SONS, Box 39, Elgin, Ill.

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HOLSTEIN BULL CALVES FOR SALE

MONTROSE COLORADO
PVR
PAHGRE VALLEY RANCH
QUALITY

POSSIBLY

we have just the individual you want. At any rate, we have some mighty good ones with fine advanced registry backing and from a clean herd. We offer only calves bred and raised by us. Let us tell you of them before you buy your next herd sire.

Prices $100 to $1,000

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MONTROSE, COLO.

THE HEREFORD CORPORATION OF WYOMING

Ranch Six Miles From Cheyenne, Wyoming

Registered Herefords Exclusively Anxiety Bred

We have on hand two carloads of coming 2-year-old bulls in fine condition for service. Several cars extra good yearling bulls for sale. Write us for prices and detailed information.

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Union Stock Yards, Denver, Colorado

RAYMOND S. HUSTED, Manager
WM. J. ROSSMAN, Ranch Superintendent JAMES C. ADAMS, Salesman

SPECIAL NOTICE

Due to the volume of our business and the co-operation of our customers, we have been able to reduce the cost of production of the Original Kansas Germ Free Fluid Vaccine made by Dr. O. M. Franklin, and are therefore giving the consumer the benefit of that reduction.

Hereafter the regular price of this vaccine will be 40 cents per dose.

To those who are not familiar with our product, and to show that we have every confidence in our vaccine, we will give a written guarantee that it will save every calf from blackleg. The price with this written guarantee is 50 cents per dose.

WE MAKE ONE QUALITY OF VACCINE ONLY

THE KANSAS BLACKLEG SERUM COMPANY
409 Live Stock Exchange Building, Denver, Colorado

HIGH CLASS JERSEYS AND DUROCS

The Western Home of the Majesty's

Do you notice the Majesty's are "going over the top" in all departments? I have recently added "Majesty's Feather Lad" to my herd. He is out of a daughter of old Royal Majesty, with a test of 712 lbs. butter, and a show cow, and sired by a grandson of Royal Majesty. He is fine individually, too. Where can you beat this breeding ? I have one or two splendid bull calves of Majesty breeding, and can spare a few heifers.

In Durocs, I have a couple of fine fall boars, sired by a son of Grand Model, at low prices.

Can spare a bred yearling sow and a few spring boars and gilts.

A. M. McCLENAHAN, Greeley, Colorado

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We have the finest crop of Duroc-Jersey pigs that we have had in a number of years. They are sired by a son of Orion Cherry King, a grandson of Orion Cherry King, who is by a Grand Champion boar at National Swine Show two years ago, and by a boar of Golden Model breeding. We can give you as good a selection as can be gotten in the West. Write us your wants.

COLORADO AGRICULTURAL COLLEGE
Animal Husbandry Department Fort Collins, Colorado

MONTAIR DUROCS

Our March and July boars are by a son of Orion Cherry King, by a son of Orion Cherry King, Jr., and by two sons of Orion Cherry King Again. We have built our herd on this type and blood, which has taken highest honors at all three National Swine Shows. We can sell you a boar that will produce good barrows or a boar to head a show herd. GEO. E. MORTON & SON, Rt. 5, Box 84, Ft. Collins, Colo.

DUROC JERSEYS

Big type February and March gilts, bred to prize-winning boar at State Fair. Boars and gilts of July farrow sired by same boar. They have size with plenty of quality. All stock sold on money-back guarantee.

BRAE SIDE FARM
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$25—HOLSTEINS—$25

Five weeks old, 15-16 pure, mostly white, $25 crated. Two months old, $35. Registered bulls two months old, best quality, $70. Two-year-old springers, $125. Cows crated, $150. Write us for car lots. Buy the best —it pays in the end. Dr. J. A. Roberts Stock Farms, Oconomowoc, Wis.

Raise Hares for Us

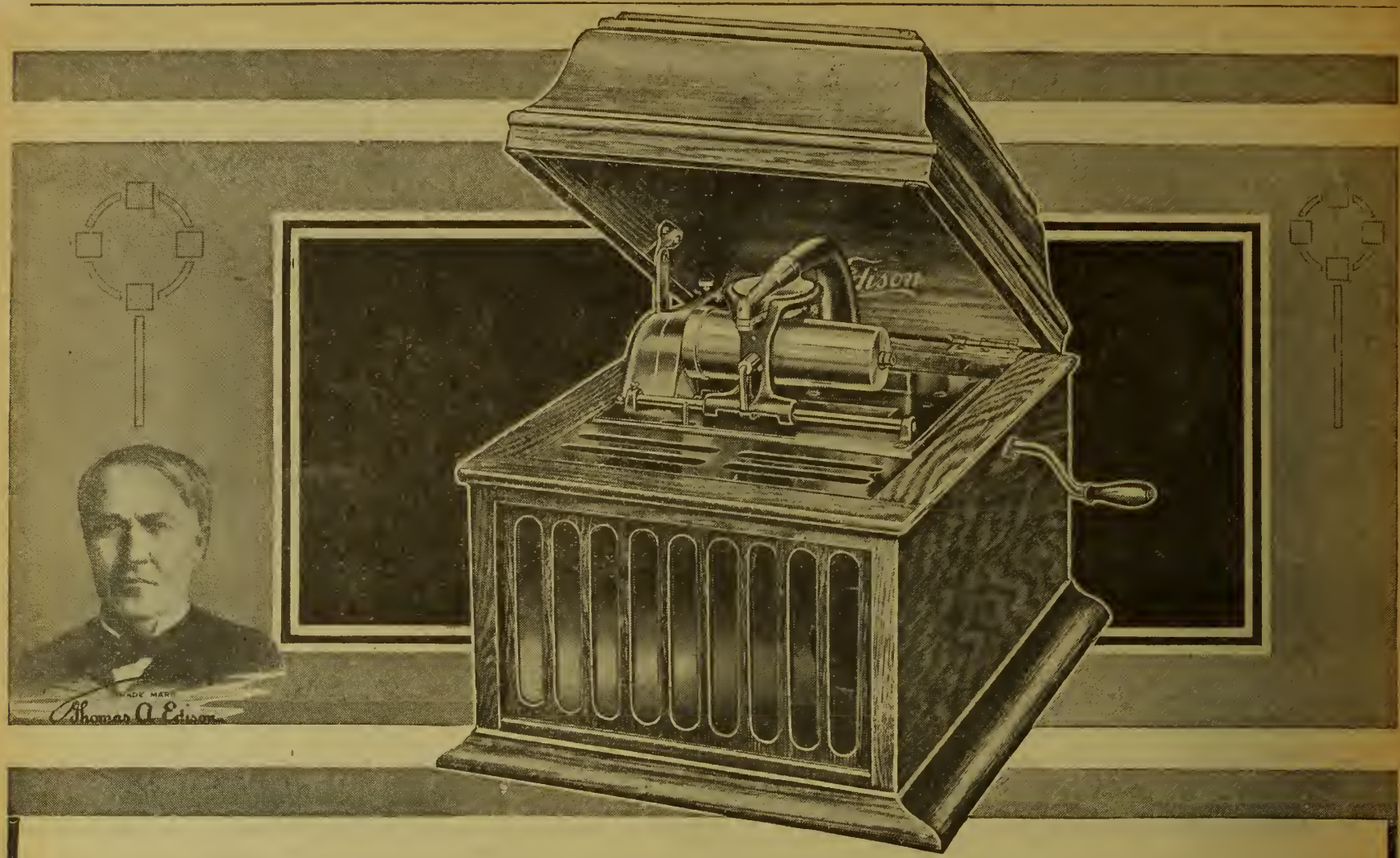
IMMENSE PROFITS easily and quickly made. We furnish stock and pay you $2.00 each and expressage when three months old. Contracts, booklet and full information 10c. Nothing free. Address

Dept. 24, THORSON RABBIT CO. Aurora, Colo.

THRIFTY HOLSTEIN-FREISIAN CALVES FOR SALE

Either sex. Practically pure bred from registered bulls and high-producing dams. $25.00 crated, f. o. b. Chanute, safe delivery guaranteed. Six registered bulls from 2 to 10 months old—these are beauties—$75.00 to $100.00. Also 30 registered Duroc Jersey pigs, either sex, 3 to 5 months old, $30.00.

MAGEE DAIRY FARM
Chanute, Kansas



Mr. Edison's Wonderful New Diamond Amberola

Sent on Free Trial!

Read the Coupon Below! An astonishing offer—the New Edison Diamond Amberola, Mr. Edison's great new phonograph with the Diamond Stylus reproducer, and 12 brand new Blue Amberol Indestructible 4-Minute Records sent to you on ***absolutely free trial. Send no money***—just fill out the coupon below and send it to us at once. We will send you the complete outfit immediately. No C. O. D. Entertain your family and friends with the latest song hits of the big cities. Laugh at the side-splitting minstrel shows. Hear anything from Grand Opera to Comic Vaudeville. Judge for yourself just how much this great phonograph would mean to your home. Decide if you can get along without it. After the trial in your own home, make up your mind. If you decide not to keep the outfit, send it back to us ***at our expense.***

Only $1.00 After Trial

If you wish to keep Mr. Edison's superb new instrument after the free trial, send us only $1.00. Pay the balance of $47.20 for the complete outfit in easy payments of only $4.00 for 11 months and $3.20 for the 12th month, total $48.20. Remember, the 12 brand new Blue Amberol Indestructible four-minute records are included with this outfit.

Think of it—a $1.00 payment, and a few dollars a month to get this outfit of Mr. Edison's new phonograph with the Diamond Stylus reproducer, the life-like music—the same Blue Amberol Records—all the musical results of the highest priced outfits. The *finest*, the *best* that money can buy at very much less than the price at which imitations of the Genuine New Edison Diamond Amberola are offered.

After years of labor on his favorite invention, Mr. Edison has made the music of the phonograph true to life. There is no reason now—especially since we make this rock-bottom offer—why you should be satisfied with anything less than Mr. Edison's genuine instrument. You are under no obligation on this free trial offer. Hear the New Edison Diamond Amberola in your own home before you decide.

Send No Money *Just the Coupon!*

Convince yourself first. Get the New Edison Diamond Amberola in your home on free trial. See what a wonderful instrument it is—how it brings the music of the world's greatest singers and players, the sweet old time melodies, the jokes of the funniest vaudeville actors, all right into your own parlor as if they were there *in person*. See for yourself how much you *need* the New Edison Diamond Amberola in your life. See how much happier it will make your home. Just fill out the coupon and send it in. Of course, we do *not* want to ship an outfit to a person who can not afford to pay either cash or at least the easy payments (and when you get a free trial it must be understood that you can *afford* to keep it). *Yet*, no one is *under any obligations* to keep an outfit if it is not entirely satisfactory. If it is not just what you want for your home, return it *at our expense; you*, not we, must judge what the Edison phonograph means to you and we accept your decision cheerfully and without question.

F. K. Babson Edison Phonograph Distributors 4169 Edison Block, Chicago, Ill.

Canadian Office: 355 Portage Avenue, Winnipeg, Man.

No obligation to buy in sending this coupon; this is just an application for a Free Trial

F. K. BABSON, Edison Phonograph Dists., 4169 Edison Block, **Chicago, Ill.**

Dear Mr. Babson:—As per your offer, I should like to hear Mr. Edison's wonderful new style phonograph with the Diamond Stylus reproducer and the 12 Brand New Blue Amberol Indestructible Four Minute Records which are included with this outfit, in my home on free trial. If I decide to keep the outfit, I will have the privilege of the rock-bottom price of $48.20 direct from you on special terms. I merely agree to take the outfit promptly from the depot, pay the small express charges, and if I do not find it thoroughly satisfactory, I reserve the right to return the outfit at once at your expense. Otherwise, I will send the first payment of $1.00 within forty-eight hours after the free trial or as soon as possible, in no case exceeding one week, and will make monthly payments thereafter of $4.00 for 11 months and $3.20 for the 12th month. Total, $48.20. The outfit is to remain your property until the last payment has been made. The 12 New Blue Amberol Indestructible Four-Minute Records are included with the outfit. (This offer is not open to anyone under 21 years of age. If you are under 21 ask your father, mother or guardian to fill in and sign this coupon for you.)

My name.....Address or R. F. D. No.....

City.....State.....Ship by.....Express

Shipping Point.....Ship by.....Occupation.....

Age.....Married or single.....If steadily employed at a salary please state.....

How long a resident in your neighborhood and your vicinity.....If there is any possibility of changing your address during the next year, what will be your next address?.....

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WESTERN Farm Life

Vol. XX Denver, Colorado, December 15, 1918 Semi-Monthly

Photo by Harry Rhoades of The Denver Times

A CHRISTMAS VIEW OF THE COLORADO STATE CAPITOL

Glory to God in the Highest and on Earth Peace, Good Will Toward Men.—Luke 11:14

THE BEST LINIMENT
OR PAIN KILLER FOR THE HUMAN BODY
Gombault's
Caustic Balsam
IT HAS NO EQUAL

For the Human Body — It is penetrating, soothing and healing, and for all Old Sores, Bruises, or Wounds, Felons, Boils, Corns and Bunions CAUSTIC BALSAM has no equal as a Liniment.

We would say to all who buy it that it does not contain a particle of poisonous substance and therefore no harm can result from its external use. Persistent, thorough use will cure many old or chronic ailments and it can be used on any case that requires an outward application with perfect safety.

A Perfectly Safe and Reliable Remedy for Sore Throat, Chest Cold, Backache, Neuralgia, Sprains, Strains, Lumbago, Sore Lungs, Rheumatism and all Stiff Joints

REMOVES THE SORENESS—STRENGTHENS MUSCLES

Cornhill, Tex.—"One bottle Caustic Balsam did my rheumatism more good than $120.00 paid in doctor's bills." OTTO A. BEYER.

Price $1.75 per bottle. Sold by druggists, or sent by us express prepaid. Write for Booklet R.

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Big Money in Running Water

Let us start you business that will make you from $15 to $50 a day when farm work is slack. Other men have done it for years with an Improved Powers Combined Well Boring and Drilling Machine

One Man One Team

Same rig bores through any soil at rate of 100 ft. in 10 hours, and drills through rock. One team hauls and operates machine. Engine power if wanted. Easy to operate—no experts needed.

Small investment; easy terms. Make machine pay for itself in a few weeks work.

There is a big demand for wells to water stock and for irrigation.

Write for free illustrated circulars showing different styles.

Lisle Manufacturing Co. Box 943 Clarinda, Iowa

10 Cents WORTH OF COMMON ORDINARY KEROSENE

or Coal Oil will keep this lamp in operation for 50 HOURS and will produce

300 CANDLE POWER

of the purest, whitest and best light known to science. Nothing to wear out or get out of order. Simple. Safe. Absolute satisfaction guaranteed. Send for catalog showing lamps for every purpose; also special introductory offer and agency proposition. Write today.

No Wicks to Trim
No Smoke
No Smell

KNIGHT LIGHT AND SODA FOUNTAIN COMPANY, 417 Knight Bldg., Chicago

"Get a WITTE" Feed Grinding ENGINE

All sizes, Stationary or Portable, 2 to 30 H-P. Cash, Payments or No Money Down, as arranged for.

Burn KEROSENE Just as easy and simple as gasoline—Cost less than half to operate—Buy Direct From Factory. Saves $15 to $200. Greatest of all engine books, and latest engine prices, FREE. Write today.

Ed. H. Witte, Pres., WITTE ENGINE WORKS,
2646 Oakland Avenue, Kansas City, Mo.
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Hand Pull Lateral Gates

These gates prevent cutting the ditch banks in order to divert the water and put the water under complete control of the irrigator. They are durable, low initial cost, preserve ditches. May be attached to "Armco" iron pipe outlet conduit any desired length. No cement work required.

Write for our free 125 page catalog, which illustrates and prices these gates, as well as more than 65 other articles for the irrigator including the "Armco" flumes, ditch lining, pipes, culverts, tanks, troughs and grain bins.

THE R. HARDESTY MFG. CO.
1837 Market Street DENVER, COLO.

$22.00 Sweep Feed Grinder | $28.00 Galvanized Steel Wind Mill.

We manufacture all sizes and styles. It will pay you to investigate. Write for catalog and price list.

CURRIE WIND MILL CO.,
610 E. Seventh Street, Topeka, Kansas.

17½¢ A ROD

164 styles, highest quality fence. Order direct at wire mill prices. Shipped from Kansas, Indiana, Nebraska, Texas, Colorado or California. Catalog Free. Write today. Geo. E. Long,

OTTAWA MFG. CO., 271 King St., Ottawa, Kans.

The Grange

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The National Grange, after a lengthy session at Syracuse, N. Y., in November, adopted a reconstruction platform for drastic government reforms and readjustments affecting agriculture. The Grange recommends:

The present system of marketing and distribution, clumsy, wasteful and inefficient, should be abolished and unnecessary middlemen eliminated.

Censorship on a free press and free speech should be removed and the zone system discontinued.

The government should center its activities in the building of market and post roads instead of spending money on boulevards used by few.

Agriculture should be fully represented in all legislative bodies.

Secretaries of agriculture should be practical farmers.

The farm land bank law should be extended, discouraging land tenantry and abandoned farms.

Munition plants should be converted to the manufacture of fertilizers, freeing the nation from dependency on foreign supplies.

Urban standards of education should not become guides of the rural system.

Local Granges are advised to continue the plan of electing musical directors and aiding the Liberty chorus organization, as has been outlined in suggestions to the lecturers. The chorus work will not stop with the ending of the war. Patriotic songs must not be neglected during times of peace. In fact, there is no better way to maintain the peace of the world than by constantly being keyed up to the true national spirit.

The real work of farm life leaves little time or appetite for afternoon teas and late suppers. Nevertheless the request of the Food Administration that the fourth meal be discontinued until food conditions are less serious suggests to all people simple hospitality. Company for dinner or supper should mean to the earnest woman a real chance to teach conservation in an agreeable form. The church supper or Grange dinner, too, presents an opportunity to demonstrate how good is a dinner of simple home products and when well-cooked, and should be a substitute for one of the three regular meals. The extra meal and lavishness in food ought to be considered an offence against humanity and good taste so long as war-torn Europe needs to be comforted and fed.

Women as Cow Testers

The twenty-seven women now employed as cow testers by some of the 353 cow-testing associations in this country have not only done satisfactory work, but have achieved results above the average, according to dairy specialists of the United States Department of Agriculture.

The main reason why women have begun to do this work is the scarcity of cow testers. Most of the testers at work when the war began were young men and many of them are now in military service. Because of the shortage of workers the past year has seen the number of cow-testing associations—organizations of farmers who want to keep records of their herds—decrease from 472 to 353, although there has been an increased demand for such associations, and it is believed the number could easily be doubled if enough testers were available. The work does not require great physical strength. It does demand some training, but this is easily acquired by women.

The first woman cow tester in the United States, Miss Bessie Lipsitz, began work less than three years ago with a cow-testing association in Grant county, Wisconsin. Wisconsin now has 18 women cow testers, Iowa 6, and three other states have 1 each.

The Denver is a Great Christmas Store of a Million Gifts. Begin your Christmas Shopping Today at The Denver

SPECIAL MAIL ORDER SERVICE FOR CUSTOMERS LIVING AT A DISTANCE

The Denver is the largest, lightest, roomiest and most convenient shopping place in the West and carrying the largest stock of high-class merchandise. To these well-known advantages The Denver adds an absolutely reliable service that relieves the patron from every element of risk.

Write Our Mail Order Department

THE DENVER DRY GOODS CO.

DENVER, COLORADO

IN PEACE AS IN WAR

During the war period when the agriculturist was working under pressure to grow and market produce to the fullest possibilities of his acreage, THE TELEPHONE proved an invaluable agency.

It multiplied the farmer's personal powers of supervision and of execution. It demonstrated its usefulness to the rural community as never before.

During this trying period the quality of the service to rural subscribers was greatly enhanced by their co-operation and thoughtfulness in the use of party lines.

The former practice of holding rural lines for lengthy discussions of unimportant subjects is not so much in evidence. Consideration of others on the line is noticeably gaining ground.

May we suggest that a high quality of service is quite as desirable in times of peace as in times of war, and therefore hope for a continuance of your helpful co-operation to this end?

The Mountain States Telephone and Telegraph Company

Are You Keeping Your W. S. S. Pledge?

Published Semi-Monthly by The Farm Life Publishing Co., Denver, Colo. 14th and Arapahoe Sts.

Entered at the Denver Postoffice as Second Class Matter

WESTERN FARM LIFE

A Western Magazine for Western Farmers and Stockmen

Comprising Ranch and Range, Farmers Life and Fruit Journal, Trans-Mo. Farmer and Ranchman

Largest Circulation of Any Farm Magazine in the West

Volume XX | DENVER, COLORADO, DECEMBER 15, 1918 | Number 24

Deep Plowing and Soil Compaction Explained

ROOTS MUST FIND SUBSOIL MOISTURE OR CROPS WILL FAIL

E. R. PARSONS

DRY FARMING in its early days was often referred to as a method of conserving moisture. This is only one-half of of it. The correct definition of dry farming is "The art of accumulating and conserving such reserves of moisture in the soil as are indispensable for the raising of crops without irrigation in regions of limited precipitaton."

There are two distinct processes involved, accumulation which depends mainly on plowing, and conservation which rests on mulching. We must first catch our water before we can conserve it, and the deeper we plow the more we catch. For ordinary crops 6 or 8 inches of water should be impounded in the soil before planting. Of this amount a large proportion is held in the subsoil, for the seed bed alone could probably hold only about two inches of it.

In some of the Pacific states which have a wet season followed by a dry one, crops are raised on conserved moisture after the rainy season is over, without rain and without irrigation. All over the United States billions of tons of water which would make millions of tons of crops, if conserved in the soil, run off into the creeks, rivers, and the sea, and are lost to the service of man. All water drains away to the nearest water course. There is only one way to stop it—plow the ground that it runs over.

With steady rains deep plowing accumulates an enormous amount of moisture, for as it falls on the surface it works its way down through the seedbed (settling it as it goes) and is absorbed into the subsoil below.

Ten or twelve inches of plowing will easily hold two or more inches of rain until it has time to sink into the subsoil, leaving the seedbed ready for the next downpour; but if the plowing is much shallower than this, there is every danger of its becoming flooded and temporarily waterlogged, for it has no capacity for more than a small shower. Standing water brings alkali to the surface and puddles and solidifies the soil to such an extent that baking ensues, and perhaps cracking of the surface, which, in case of row crops, may be checked with the cultivator, but in the case of grain crops approaching maturity, means diminished yield. Dry farming is essentially farming for the future. The plowing we do today may bring us no returns for six months or a year. Furthermore, every year's good plowing improves the condition of the subsoil and conserves more and more moisture over and above what the crops use up, and the longer the good work is kept up the easier it becomes to raise almost anything the farmer desires.

No settler can expect big crops the first year. The subsoil is dry; the moisture is not there. It is up to the farmer to put it there. That is his job the first season—to so open up the soil that no moisture may run off and be lost, and when the right moment arrives put the lid on with the disk or cultivator. In a few years he begins to wonder what the difficulty was, for dry farming by the right method is as easy as any kind of farming and much more pleasant than bucking mud.

Absolutely every crop on the dry farm should be planted on one of the three fallows. The spring fallow, land plowed in February or March and held over for planting until May, June or July, is used for late crops such as corn, sorghum, Sudan grass, beans, etc. The summer fallow, which is land plowed in May or June, is the best for winter wheat or rye planted in August or September. The winter fallow, which is plowed in the fall, is good for all spring crops without exception, but particularly so for oats, flax, and small grain. By following this simple rule of the three fallows we insure our crops against drouth, and secure the proper soil compaction on deep plowing. Oats, flax, etc., do their best on well settled ground, but that is no reason that the soil should not be plowed for them (as some advocate) when by plowing in the fall we can secure the right compaction by planting time, as well as conserved moisture, and raise twice as much per acre. Even such crops as corn, sorghum, potatoes, etc., do better on the winter fallow, but since it is usually impossible to plow all the land in the fall, the former two are usually planted on the spring fallow, for they will flourish in a seed bed which is not nearly compact enough for small grain. When land that has been plowed deep has not attained the right degree of compaction it contains too much air in contact with the roots which naturally has a drying effect, and the soil being loose, the grains of dirt are too far apart for the size of the root hairs, which obtain their moisture by forcing themselves with considerable pressure between the granules, which enables them to wipe the film off. It is highly probable that the crops which can do better than some others with a less amount of compaction are those which possess a coarser root system. The whole problem of dry farming hinges largely on the subject of roots, and deep plowing with the proper compaction has such a profound effect on the yield because it affords more dirt for the roots to exploit for plant food, it catches and holds large quantities of water, it offers easy and quick penetration for the roots to establish themselves at depth away from the heat and drouth and it mulches the subsoil, keeping it cool and damp, so that the roots can go down.

In dry farming, unless the roots of the crop are deep down in the subsoil the results will be very disappointing. The farmers of the humid eastern states have never had to bother their heads about the relations of seedbed and subsoil, and many still imagine that a crop is made off the plowed topsoil. Dry farming has shown something quite different. In the subsoil underneath deep plowing where moisture has been conserved, the roots of winter wheat have been found at a depth of seven feet, rye and spring grain at four feet and corn as deep as ten feet. There are crops like potatoes and beans which root almost entirely in the seed bed and on this account also, deep plowing counts more than ever. In those plants which send roots into the subsoil, we recognize two distinct sets, the upper, which exploit the seedbed for plantfood, and the lower set or tap roots, which tap the moisture in the subsoil. It is the latter which saves the crop in times of drouth, and the only way we know to cause them to form is to keep the subsoil full of moisture by deep plowing.

The crops which dry out suddenly are those which, owing to the shallowness of the plowing, have never rooted in the subsoil, for when it is hard and dry from insufficient protection nothing will go through it. A crop which is rooted in seven inches of soil may dry out very quickly, but one that is rooted in seven feet can never dry out. This is the secret of raising crops (as is actually done in some of our states) on conserved moisture without any precipitation during the growing season. We have heard some agriculturists offer the opinion that deep plowing is good for some crops and not for others; but they are altogether at a loss to prove what the others are, for everything responds to deep plowing which affords them more soil, more plant food and more moisture. The more we feed a plant the more it grows; the more corn we give a hog the fatter he becomes. If we want good crops and good stock we have to feed them, anything to the contrary is nonsense.

GOOD SOIL FOR DRY LAND FARMING
Typical dry farming soil, friable, uniform in texture to great depth, easily penetrated by roots, fairly retentive of moisture, but needing humus to increase water-holding capacity. Photo shows 28 inches in depth. Taken on Broadview ranch, Arapahoe county, Colorado.

We have received communications from men who claimed that deep plowing ruined their land. When we came to investigate we found that they were trying to farm on gopher clay with two or three inches of soil on top of it. It is a waste of time to try to dry farm without soil; it would be much better to leave such lands for pasture. There is one other cause of failure in deep plowing that often occurs and that is due to immediate planting before the soil is in the proper state of compaction. Artificial packing is better than nothing, but the natural settling of the ground by its own weight from the bottom up is the best for results, and for this, of course, time is necessary. Deep plowing is ninety per cent of dry farming; but some have put cultivation first. But the idea of cultivating day and night and Sundays to offset poor plowing is unscientific and uneconomical. All crops respond to deep plowing. A crop of alfalfa can be raised the first year without irrigation if the land can be plowed twenty inches deep. On land plowed ten to twelve inches it will make a good stand; on land plowed six to eight it may make a stand, and on land plowed less than this there is very little chance of obtaining a stand, and on shallow land, instead of improving year by year, it usually dies out in a few seasons.

As high as 200 bushels per acre of corn has been raised by deep plowing, and a boy in Dakota raised over 100 bushels. The corn club boys practically are all plowing deep and using fertilizer. A man in Montana who plowed ten inches raised 250 bushels of potatoes per acre his second year on the farm. At ranches south of Denver, at Broomfield and other districts, dry farmers have raised as high as 75 bushels of oats per acre by plowing ten to twelve inches in the fall. At Calhan, 6,500 feet altitude, there are some deep plowers, who raise over 40 bushels of corn per acre nearly every year. The deep plowing farmers and communities are increasing in numbers every year and even now are becoming too plentiful to enumerate, for once a farmer learns to plow deep he never goes back. Nevertheless there are thousands yet who have never tried it and do not know that they could double their income. All that is necessary is one more horse to the plow. That is the beauty of it, no more man power is needed than for shallow plowing. In an economic way nothing is more profitable than deep work on the dry farm. A plows an acre of land six inches deep. B puts on more horses and plows twelve. If the dirt is measured B is plowing two acres to A's one and will actually take off twice as much crop as A, but the man power is the same in both cases. If these two were farming 100 acres apiece, A's loss at present prices would be over $2,000 per annum.

"To be a thoroughly equipped scientific farmer probably requires a higher education, certainly a more complete scientific education, than any of the learned professions, with the possible exception of medicine."—Thomas Nixon Carver.

Evergreen Trees for the Plains of Colorado

FARMERS CAN BUY TREES FROM STATE FORESTRY DEPARTMENT AT COST

W. J. MORRILL, *State Forester*

Western Yellow Pine
(Pinus ponderosa scopulorum)

EVERGREEN trees greatly predominate over the broadleaf species in the forests of Colorado. Excepting on limited areas along our stream banks, which are covered with cottonwoods and aspen patches, or burned over spots on our mountain slopes, only evergreen trees are to be found. Low down in the foothills at elevations between 6,000 and 7,000 feet, where the average annual precipitation rarely exceeds fifteen inches and may fall short of this, the pinon pine and cedars find hospitable environment in the warm soil of southerly exposures. A little higher up, at elevations between 6,000 and 8,000 feet in northern Colorado, and between 7,000 and 9,000 feet in southern Colorado, the yellow pine belt is found; here the average minimum annual precipitation is never less than fifteen inches in northern Colorado and twenty inches in the southern part of the state.

Above the yellow pine belt comes the Douglas fir zone, merging into the upper limits of the yellow pine. The lodgepole pine and the Engelmann spruce zones comprise the upper belts of timber extending to timberline, the lodgepole on old burns or on the better drained, gravelly soil, and the spruce on the colder, moisture-retaining ground.

The higher elevations receive more precipitation, but also suffer more rapid loss of moisture by evaporation, since the lighter the air the quicker the evaporation from the soil and the transpiration of moisture from foliage. But the amount of precipitation and the altitude alone do not regulate the species which are found. The length of season between frosts, the mean summer temperature of the soil, the humidity, and other factors all enter into this complex matter.

It is a striking fact that evergreens comprise the vast majority of native Colorado trees.

Why Evergreens Predominate

Why should this be true? The answer seems to be, Colorado has a dry climate, too dry for broadleaf trees, generally speaking. The answer leads only to another pertinent question: Why are evergreen trees more drouth-resisting than broadleaf trees?

The greater drouth resistance of evergreen trees is due to difference in leaf structure. While the broadleaf species expose a relatively large leaf surface to transpiration, the evergreens have small needle-like leaves which expose but little surface to transpiration. Another difference is in the structure of the leaves. While the broadleaf species have their leaves protected by a thin tissue of cells designed to restrict transpiration, the evergreen leaves have a similar tissue of the same kind of cells but with sunken stomata or pores. The evergreen needles show adaptation to dry climate, more so than does the average or typical leaf of the broadleaf species. It is common experience that a branch broken from an evergreen tree will keep green and fresh for days, while a branch from a broadleaf tree will wither in a few hours.

It has been determined that a large broadleaf tree may transpire a barrel of water during a hot day, while a large evergreen disposes of only about one-sixth of that amount.

Growing Evergreens Experimentally

With these facts in mind, experiments have been conducted with the growing of evergreen species in the sandhills and plains between the one hundredth meridian and the Rocky mountains. In 1890 a plantation of several acres of jack pine was established under the supervision of the United States Department of Agriculture on the Bruner Brothers' ranch in Holt county, Nebraska, on the eastern edge of the sandhill region of that state. The result is a success—a fine stand of trees.

Twelve years later, in 1902, the Bureau of Forestry, now known as the United States Forest Service, began planting trees in the sandhills in the west central part of Nebraska, at Halsey, east of Alliance. Here western yellow pine and jack pine are the chief species used. During the first few years wild seedling stock of jack pine was brought in from Minnesota. A fair proportion of this inferior stock grew and now has attained good size. As soon as possible a nursery was established near Halsey and better stock was produced, also better methods of planting were learned as time elapsed, until at present planting pines on the sandhills is a successful venture. As one rides by train near these plantations he is impressed by the pine forest on the hills in a region naturally devoid of forests.

Broadleaf species were tried but could not endure the conditions on the sandhills. The precipitation amounts to nineteen inches annually, as an average, but the coarse, porous soil is not conducive to good capillarity. Yet there is almost always sufficient moisture at a depth of two feet or less.

The soil in eastern Colorado is usually finer and therefore more retentive of moisture, and here we also probably suffer less from strong winds blowing sand to cut and abrade the tender bark of the young trees.

The Best Evergreens to Grow

Considering the relative merits of jack pine and western yellow pine under adverse climatic conditions, it appears that the jack pine starts growth earlier in the spring, thus utilizing the moisture stored over winter to make a more rapid start of growth for a number of years. The western yellow pine has the advantage of a longer root system to tap the moisture lying at some depth.

One disadvantage of all evergreens is that more care is necessary in the planting and during the first two or three years than is the case with broadleaf trees. The exposure of the roots, even for a few minutes at planting, may cause the death of the young tree, while the roots of the broadleaf species can stand considerable exposure. Understanding this fact, the farmers of western Nebraska are planting more evergreens than broadleaf species, although at first they demanded only broadleaf trees. They are using chiefly jack pine and western yellow pine.

It is predicted that the farmers of eastern Colorado also will plant evergreens in the future to a much greater extent than formerly.

Precautions in Planting

One of the chief precautions to take on dry land is to keep the weeds and grass eliminated for a distance around each evergreen, in order that all the moisture will be available for the tree. After the tree roots have penetrated to a considerable depth, it does not matter so much about the cultivation. Yet continued cultivation will be rewarded by more vigorous tree growth.

Best results were obtained in Halsey when planting was done as follows: Pits were dug to the full depth needed by each tree. A mound of earth was formed by hand in the bottom of the pit; then the tree roots were spread over the mound, after which the dirt was filled in and compacted by hand over the roots thus spread. The tree was set at the same depth, or slightly lower in the soil, as it stood in the nursery before being taken up for transplanting.

When planting a considerable number of trees, whether of the broadleaf species or the evergreens, the average farmer cannot stand the expense of large nursery stock; he objects to paying from 50 cents to a dollar a tree, or even 15 cents. Accordingly, young, small nursery stock is usually recommended. Evergreens either three or four years old, which have been transplanted once in the nursery, are about the right size, considering expense. Younger stock will suffer greater percentage of mortality. Stock of this size is so cheap that the planter can afford to discard weak looking specimens or those showing injury in shipping, as it is hardly worth while putting them into the ground.

Experience in Halsey indicates that evergreens should be planted as early in the spring as the frost in the ground will permit. Consequently orders for evergreens should be placed early in order to insure early delivery. The less time that elapses between the digging of the trees in the nursery and the planting of them in the field, the better will be the results. This suggests that the nearert nurseries, everything else being equal, are the better for the purchaser.

Results in the Akron Experiment

In 1911, at Akron, Washington county, Colo., the following evergreen species were planted: European larch, Scotch pine, Austrian pine, jack pine, western yellow pine, Douglas fir and Black Hills spruce (which is a regional variety of the Canadian white spruce). This plantation is a part of the Dry Farm Experiment Station of the United States Department of Agriculture, but the trees have received no more than ordinary care, which included clean cultivation and tree pruning.

In August, 1918, we find that the Douglas fir has almost completely failed, as has the European larch. The Black Hills spruce has made very slow growth, averaging only 2.8 feet in height, although the average annual height growth during the past three years has been 5.8 inches and the trees look thrifty. The Austrian pine suffered large mortality, but the one lone survivor is the largest and thriftiest evergreen in the plantation. Its height is 12.4 feet and the last annual growth amounted to 22 inches. The western yellow pine is thrirfty, has suffered loss of only about one-third, has attained an average height of slightly over 6 feet, and is making a height growth annually now of between 13 and 14 inches.

The jack pine has lost 20 per cent of the original number, but the stand is amply thick. Several of the larger trees are now bearing cones. The average height is 8.9 feet, ranging from 6 to 12.4 feet. The average terminal growth of the present season is 18 inches. The trees are very much branched, giving a spreading appearance. On the whole, these trees are very thrifty and have made the most rapid growth of any of the evergreens.

From the experience at Halsey and at Akron we recommend the jack pine and the western yellow pine as the two best species for eastern Colorado, and both as meriting at least a trial along with the favorite broadleaf species which may include the honey locust, in most places the black locust, the Russian olive, American and cork elms, green ash and cottonwood.

The Rocky Mountain red cedar is another evergreen at least as well adapted to plains life as the two pines recommended, but, unfortunately, this species was not included in our experimental planting in Akron and but little data can be given concerning it. It is native to the low foothills along with pinon pine and is occasionally found in the "breaks" in eastern Colorado and on the escarpments of western Nebraska. The growth of this species is slow. However, a fine row of red cedar is being grown on the Buel ranch, a dry farm near Haswell, Colo.

How to Obtain Trees

We have good commercial nurseries in Colorado; write to them for prices on trees desired. Large nurseries in Kansas and Nebraska can also supply you. Or, if you prefer, you can avail yourself of the opportunity of buying through the State Forester at the Colorado Agricultural College, Fort Collins. An arrangement has been made by which the state contracts with the United States Forest Service to grow several species of both evergreens and broadleaf trees which are thought to be most desirable for eastern Colorado. This stock is sold, in lots of not less than twenty-five trees, at cost of production plus the transportation charges to residents of Colorado. This

Four-year-old seedlings of Western Yellow Pine, showing root system. This is the size of nursery stock suitable for planting

has been done to encourage more extensive tree planting, especially in the dry land region of eastern Colorado, where the need for it is so urgent. Another feature of this plan is the obligation of the purchasers to report annually as to the success or condition of the trees planted, thus enabling the foresters to obtain valuable information.

A price-list is sent out upon application late in the winter. The western yellow pine and jack pine, three or four years old, from 12 to 18 inches tall, were sold at about one cent each last spring (not including carrying charges to purchaser), while the black locusts brought even less. Next spring the same species will be offered, together with elm, hackberry, Russian olive, honey locust and green ash. The most of these trees will then be two years old, grown near Monument, Colo., and the cost has not been determined but will probably not be over one cent each.

Undoubtedly certain commercial nurseries can meet these prices. From either source the cost of nursery stock is moderate and the pleasure derived from the trees on the farm, besides the increased value of the property, makes tree planting immensely profitable.

Cultivators of the earth are the most valuable citizens. They are the most vigorous, the most independent, the most virtuous, and they are tied to their country and wedded to its liberty and interests by the most lasting bonds.—Thomas Jefferson.

Facts and Figures Regarding Sugar Situation

GREAT WESTERN PAYS SIXTEEN MILLION DOLLARS FOR BEETS

ALVIN T. STEINEL

SUGAR facts and figures are interesting just now at the close of the harvest, when factories are nearing the end of the season's run, while growers are beginning to think about "next year." To ask the refiners what they are going to pay for beets at this moment, when they have not finished working up the 1918 crop is a trifle early, but the growers want the word earlier than they got it last spring. So do the sugar refiners. Last spring it was necessary to appoint a commission which took evidence in various producing districts of Colorado, on the basis of which the $10 per ton flat rate was agreed on.

Signing of the armistice has made a radical change in conditions, and at this time no one is attempting to forecast the future of sugar or beet prices. Facts that throw light on the situation may be found in an article from the Christian Science Monitor re-printed on this page. Since that was published the restrictions on sugar consumption have been lifted and American households are again using all the sugar desired, while hotels and cafes may, if they wish, restore the sugar bowl, so that guests may help themselves.

There had been no decline in the retail price at the time this article was prepared (December 5th).

Just at that time, however, there came an announcement from the United States Food Administration regarding the guaranteed price on wheat, which is a factor in considering the sugar situation. It will be recalled that early last spring conditions appeared to be favorable for spring wheat planting in the northern Colorado irrigated districts, and as the beet price was "in the air" many farmers sowed spring wheat on acreage which otherwise might have gone into beets. Wheat will again be a factor in determining the sugar beet acreage, because it has now been definitely announced from Washington that the guaranteed price holds good for all wheat harvested in the United States during 1919 and offered for sale up to June 1, 1920. (The complete announcement may be found on an other page of this issue.)

The acreage of beets in the Colorado territory of the Great Western Sugar company in 1918 was approximately 20 per cent short of normal. The gross revenue per acre of the growers was much in excess of that of previous years, because of the higher price paid for beets, and it is believed that the net will be better than expected, in spite of higher labor costs. The very fact of high labor caused the grower to get the most out of the service by making it constant. And then, weather conditions were exceptionally favorable and the sugar company gave expeditious service at the receiving stations. Another factor that was of great aid to the growers was the standardization of labor charges, effected through the good work of D. W. Thomas, farm labor specialist for the United States Department of Agriculture, with the backing of the Councils of Defense, state and county. The results showed what could be accomplished by co-operation which included the sugar company, the beet growers, the laborers, the government—and even the weather man!

There is a feeling among growers that the 1919 beet production campaign shall be put on the same high plane of co-operation. The spirit of "talking things over" is quite evident and with an attitude of fairness on the part of grower and manufacturer, there need be no serious controversy over the price. Both sides are fortified with figures on cost of production (at least in Colorado), and in the course of a month the stage of the world's sugar supply and prospective demand will be more easy to gauge than at present.

The total amount of money which will have been paid out by December 15th by the Great Western Sugar company to growers in Colorado, Nebraska, Montana and Wyoming is $16,443,000. To this may be added an estimate of about $200,000 to cover the odds and ends of the crop to be marketed during the balance of December. Of this big sum Colorado growers will have received up to December 15th $11,326,000.

For the 1917 crop the average price per ton was $7.35 in Great Western Colorado territory, which, based on an average of twelve tons per acre, made a gross revenue of $88.20 per acre. For the 1918 crop, at $10 per ton, flat, and based on the twelve ton average, the per acre gross is $120.

In 1917 the total amount received by Colorado growers from the Great Western was $10,300,000, on an acreage that was 20 per cent greater than the present year's. That indicates $1,000,000 more in 1918 for four-fifths of the tonnage marketed in 1917. The sum paid out by the company this year is much greater in the aggregate than has ever before been disbursed. No authentic averages can yet be given on sugar content but the tonnage per acre was about normal.

Following are the total amounts paid to growers November 15th and December 15th at the various factories: Eaton, $915,000; Greeley, $687,000; Windsor, $1,103,000; Fort Collins, $1,700,000; Loveland, $1,136,000; Longmont, $1,445,000; Brighton, $1,175,000; Sterling, $1,415,000; Brush, $895,000; Fort Morgan, $855,000. Total for Colorado, $11,326,000.

Scottsbluff, $1,705,000; Gering, $1,410,000; Bayard, $990,000. Total for Nebraska, $4,105,000.

Billings, $700,000; Missoula, $52,000; Lovell (Wyo.), $260,000. Total for Montana and Wyoming, $1,012,000.

Purchase of Cuban Crop

(From the Christian Science Monitor, November 19, 1918)

New York, N. Y.—Representatives of sugar refiners are conferring in Washington with the Food Administration as to terms of purchase of the Cuban sugar crop from the Sugar Equalization Board. The latter agreed to buy the entire Cuban crop, estimated this year at upward of 3,800,000 tons, at a price approximately 5.50 cents f. o. b. northern ports.

It was planned to resell this sugar, one-third to the Allies and two-thirds to American refiners. If the refiners committed themselves to the purchase of two-thirds of the Cuban production, it might obviously involve their buying more than 2,400,000 tons. Refiners' stocks have been accumulating and the estimated carry-over for the year is 750,000 tons. Domestic cane sugar and beet production, including Porto Rico and Hawaii, may reach 1,650,000 tons.

A possible supply of more than 4,800,000 tons is, therefore, in sight for next year, compared with a normal United States consumption of around 3,600,000 to 3,800,000 tons. A surplus of 1,000,000 to 1,200,000 tons is thus indicated, and refiners, it is understood, do not feel they should assume the risk of carrying and disposing of two-thirds of the entire Cuban crop in the circumstances.

It is believed that an agreement will be effected by the refiners' contracting to purchase raw sugars only from the Sugar Equalization Board. This might conceivably leave the Equalization Board with considerable stocks of Cuban raw sugar at the end of next year, but would not relieve refiners of the risk of depreciated inventories of raw sugar. An early let-up in restrictions on consumption of refined sugar is indicated by the situation.

Review of Secretary Houston's Annual Report

HIS VIEWS ON PRODUCTION, MARKETING AND RURAL CREDITS

Facts of great importance to farmers are contained in the annual report of Secretary of Agriculture D. F. Houston, which was submitted to Congress on the seventh of December. Fifty-four printed pages are devoted to the secretary's summary of the accomplishments of the farmers of America, guided by the United States Department of Agriculture, in safely and completely rationing the nation's armies and the civilian populations of the European countries allied with us in the world war. From this report we have taken topics of particular interest to us in Western Farm Life territory, namely, a brief review of production in 1918, the outlook for 1919, the subject of rural credits, land settlement after the war, and the suggestions of the secretary for solution of the live-stock marketing problem.—Editor.

DAVID F. HOUSTON

THE first year of our participation in the war, 1917, witnessed the nation's record for acreage planted—283,000,000 of the leading cereals, potatoes, tobacco, and cotton, as against 261,000,000 for the preceding year, 251,000,000 for the year prior to the outbreak of the European war, and 248,000,000 for the five-year average, 1910-1914. This is a gain of 22,000,000 over the year preceding our entry into the war and of 35,000,000 over the five-year average indicated. Even this record was exceeded the second year of the war. There was planted in 1918 for the same crops 289,000,000 acres, an increase over the preceding record year of 5,600,000. It is especially noteworthy that, while the acreage planted in wheat in 1917 was slightly less than that for the record year of 1915, it exceeded the five-year average (1910-1914) by 7,000,000; that the acreage planted in 1918 exceeded the previous record by 3,500,000; and that the indications are that the acreage planted during the current fall season will considerably exceed that of any preceding fall planting.

In each of the last two years climatic conditions over considerable sections of the union were adverse—in 1917 especially for wheat and in 1918 for corn. Notwithstanding this fact, the aggregate yield of the leading cereals in each of these years exceeded that of any preceding year in the nation's history except 1915. The estimated total for 1917 was 5,796,000,000 bushels and for 1918, 5,638,000,000 bushels, a decrease of approximately 160,000,000. But the conclusion would be unwarranted that the available supplies for human food or the aggregate nutritive value will be less in 1918 than in 1917. Fortunately, the wheat production for the current year—918,920,000 bushels—is greatly in excess of that for each of the preceding two years, 650,828,000 in 1917 and 636,318,000 in 1916, and is next to the record wheat crop of the nation. The estimated corn crop, 2,749,000,000 bushels, exceeds the five-year pre-war average by 17,000,000 bushels, is 3.4 per cent above the average in quality, and greatly superior to that of 1917. It has been estimated that of the large crop of last year, approximately 900,000,000 bushels were soft. This, of course, was valuable as feed for animals, but less so than corn of normal quality. It should be remembered, in thinking in terms of food nutritional value, that, on the average, only about 12 per cent of the corn crop is annually consumed by human beings and that not more than 26 per cent ever leaves the farm. It should be borne in mind also that the stocks of corn on the farms November 1, 1918, were 118,400,000 bushels, as against less than 35,000,000 bushels last year, and 93,340,000 bushels, the average for the preceding five years. It is noteworthy that the quality of each of the four great cereals—barley, wheat, corn, and oats—ranges from 3 to 5.4 per cent above the average.

Equally striking are the results of efforts to secure an ampler supply of meat and dairy products. In spite of the large exportation of horses and mules, the number remaining on farms is estimated to be 26,400,000, compared with 25,400,000 for the year preceding the European war and 24,700,000, the annual average for 1910-1914. The other principal classes of livestock also show an increase in number—milch cows of 2,600,000, or from 20,700,000 in 1914 to 23,300,000 in 1918; other cattle of 7,600,000, or from 35,900,000 to 43,500,000; and swine of 12,500,000, or from 58,900,000 to 71,400,000. Within the last year, for the first time in many years, there was an increase in the number of sheep—1,300,000, or from 47,616,000 in 1917 to 48,900,000 in 1918. * * *

Plans for 1919

It is too early to make detailed suggestions for the spring planting season of 1919. During this fall the department, the agricultural colleges, and other agencies carried on a campaign for a large wheat acreage, and indications were given by states as to where the requisite planting could be secured without calling for an extension of the area or even a normal acreage in the states which had suffered from drouth for two years. It was suggested that, if possible, at least 45,000,000 acres of wheat should be planted. Fortunately, we have two seasons for wheat sowing, and the department was aware of the fact that, if a large acreage was planted in the fall and came through the winter in good condition, there would be an opportunity to make appropriate suggestions in reference to the spring operations. The informal indications coming to the department are that the farmers exceeded the plantings suggested by the department. We do not know how either the wheat or the rye will come through the winter, and are not now able to state what the requirements should be for the next season, nor can anyone now tell what the world demand will be at the close of the harvest season of 1919. We do know that for the ensuing months the nation is likely to be called upon for large quantities of available food and feeds to supply not only the peoples with whom we co-operated in the war but also those of the neutrals and the central powers. This will involve a continuation of conservation on the part of our people and probably of the maintenance of a satisfactory range of prices for food products during the period. * * *

Federal Reserve Act

The federal reserve act, which has benefited every citizen through its influence on banking throughout the union, included provisions especially designed to assist the farming population. It authorized national banks to lend money on farm mortgages and recognized the peculiar needs of the farmer by giving his paper a maturity period of six months. This was followed by the federal farm loan act, which created a banking system reaching intimately into the rural districts and operating on terms suited to the farm owners' needs. This system began operations under the troubled conditions of the world war, and its activities were impeded by the vast changes incident to the entry of this country into the conflict. But, in spite of these difficulties, it has made re-

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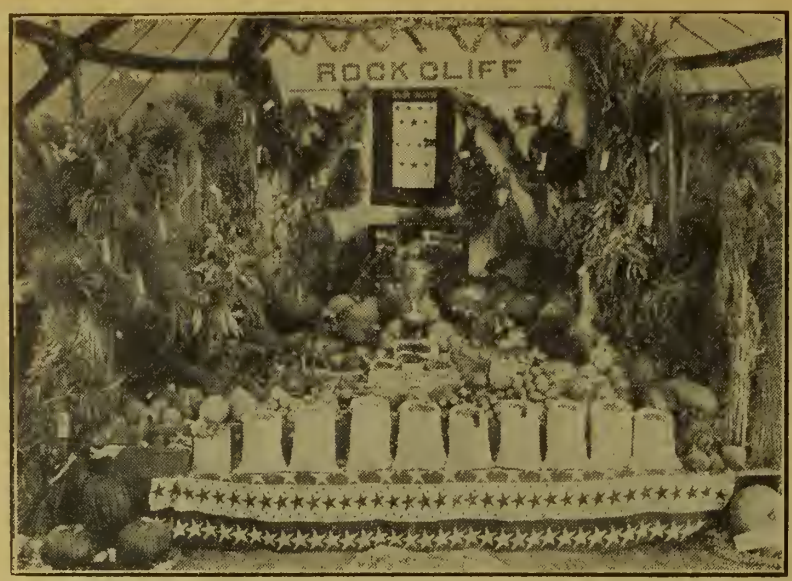

Exhibit of the Rock Cliff Farmers' Club at the Kit Carson County Fair

Rock Cliff Farmers' Club

The Rock Cliff Farmers' club of Kit Carson county, Colorado, won the $50 loving cup offered by the county commissioners for the best community exhibit at the county fair in Burlington during October. This club won the cup in 1917 and if they win again next year, which they hope to do, the trophy becomes their permanent property. In 1917 they won against eleven organizations and this year there were seven competitors in the exhibition. The products on which the award was made included sheaf of fall wheat, spring wheat, oats, barley, rye, counting five points each; best peck of fall wheat, spring wheat, oats, barley, rye, counting five points each; best ten ear exhibit of corn and best six stalks of corn counting five points each; at least one sheaf saccharine sorghum and garden products, five points each; ten points for extras and twenty points for general appearance.

Mr. D. Martin of Seibert is president of the club and the exhibit of this year and last year was in charge of Robert J. Barss. The members of the club are exceptionally progressive dry land farmers, who use good methods and get good results every year. They take enough pride in their work to put up a splendid exhibit at the county fair. The exhibit includes most everything in the way of grasses, grains, root crops, fruits and garden products grown on the plains. The service flag shows fourteen club members to have done their part in making the world safe for democracy. An American flag was hung over the top of the exhibit and immediately under the flag appears the motto: "The farmer feeds them all." The letters were formed with grains. The upper part of the exhibit is not brought out in the cut shown above.

The Rock Cliff community maintains a good school, Sunday school, a church organization and the farmers' club, which backs all of these other activities.

The Wheat Price Guarantee

The President's proclamation of February 21, 1918, fixing $2.20 per bushel as the guaranteed basic minimum price for the 1918 wheat crop, applies to wheat "harvested in the United States during the year 1918 and offered for sale before the first day of June, 1919, to such agent or employe of the United States or other person as may be hereafter designated" at the principal primary markets specified. The Food Administration Grain Corporation was designated June 21, 1918, to purchase the 1918 wheat crop and will therefore continue to exercise that duty and obligation even though peace should be signed prior to June 1, 1919. The Food Control Act provides that termination of the act shall not affect any obligation accrued or accruing during its existence and the purchase of the 1918 wheat crop is such an obligation.

The President's proclamation of September 2, 1918, establishing guaranteed prices for the 1919 wheat crop applies to wheat harvested in the United States during 1919 and offered for sale before June 1, 1920. As in the case of the 1918 crop, the wheat must be offered for sale "to such agent or employe of the United States or other person as may be hereafter designated" at any one of the principal primary markets. Up to the present date however, the agency by which the 1919 wheat crop is to be purchased has not been designated.

Thus, although the guarantee for the 1919 wheat crop will continue until June 1, 1920, there is no present assurance it will be purchased or handled by the Food Administration Grain Corporation.

The war has been brought to an end in no small measure by starvation itself, and it cannot be our business to maintain starvation after peace.

From the inability of governments to secure food for their people grows revolution and chaos.

Pat. in U. S. Dec. 1, 1914.
Pat. in Can. Apr. 6 1915.

(1)

FOOD PRODUCTION MUST BE INCREASED

The horse is a vital factor in such accomplishment. His efficiency is measured by the degree of fitness for constant use.

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Are the only guarantee against bruised, galled and chafed shoulders. They are better than other kinds, being soft, springy and absorbent. They make possible the continued use of a horse collar long after its worn condition would otherwise compel its discontinuance.

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$125 PROFIT ON ONE HORSE

HOW ONE MAN CHANGED A VICIOUS "NAG" INTO A FAITHFUL PLUGGER

Charles H. Mackley, of Unadilla, New York, bought a vicious, kicking and biting mare for $50. The horse was a mean one and no mistake. Impossible to drive, and the mere sight of any one transformed the horse into a regular "bucking broncho."

It looked to Mr. Mackley as though this terror wouldn't even earn her feed. About this time Mr. Mackley was introduced to a student of Professor Beery, the famous American horseman. And at this friend's suggestion, Mr. Mackley wrote to Professor Beery for the Beery Course in Horse Breaking and Training. Mr. Mackley gave the course a little spare-time attention and then applied his knowledge to correcting his vicious mare. In 10 days, thru the application of Beery Methods, this $50 "unbreakable broncho" was transformed into a patient, obedient and faithful plugger, which its owner later sold for $175.

$125 profit through the Beery System is but one instance. Hundreds of others write us how they have transformed balkers, kickers, horses with habits, and dangerous horses of all kinds into patient, obedient workers of high value.

QUICK, EASY WORK SURE RESULTS

No theory about the Beery Method. It is the result of 30 years' experience with thousands of horses. The Beery Method is certain and *guaranteed* to produce results.

Thru the Beery Course, you can easily tame the most vicious horse into a gentle, dependable plugger. Not only will the Beery System teach you to break vicious colts the right way, but thru it you can break any horse of any of his bad habits *permanently*. Balking, shying, biting, kicking, fright, and all other bad habits will be totally cured *forever*—and the result will be a more useful horse to own, and a more profitable horse to sell.

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Many Beery Students have been able to pick up a number of "ornery" horses which their owners were glad to get rid of. Then, through the Beery Methods, they have quickly transformed these vicious "nags" into willing workers and have sold them at a big profit. Our free book "How to Break and Train Horses" explains fully about the Beery Course and how much it will mean to you. With the knowledge gained from the Beery Course, you can quickly make your horses or anyone else's horses gentle and dependable.

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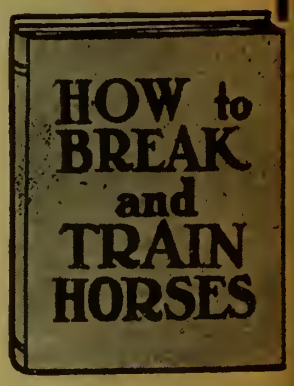

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Plowing, as deep as you need, as fast as good plowing can be done, at low cost because your tractor operates on kerosene.

Good work on plowed ground. This is important. You can use your tractor for all the seed bed work, giving your crops a better start and a better chance.

All kinds of belt work. Individual threshers, ensilage cutters, feed grinders, hay presses, and many other useful, labor-saving belt machines soon follow an International tractor because it does good belt work at low cost.

An International will haul your crops to market, clear your land, grade and level roads. In any size or style it is a true "general purpose" tractor, useful for all kinds of farm power work, built by a Company that has built farm machines and tractors in large numbers for many years.

That is what you may reasonably expect from an International kerosene tractor. The local dealer can give you any further information you want. See him or write direct to us.

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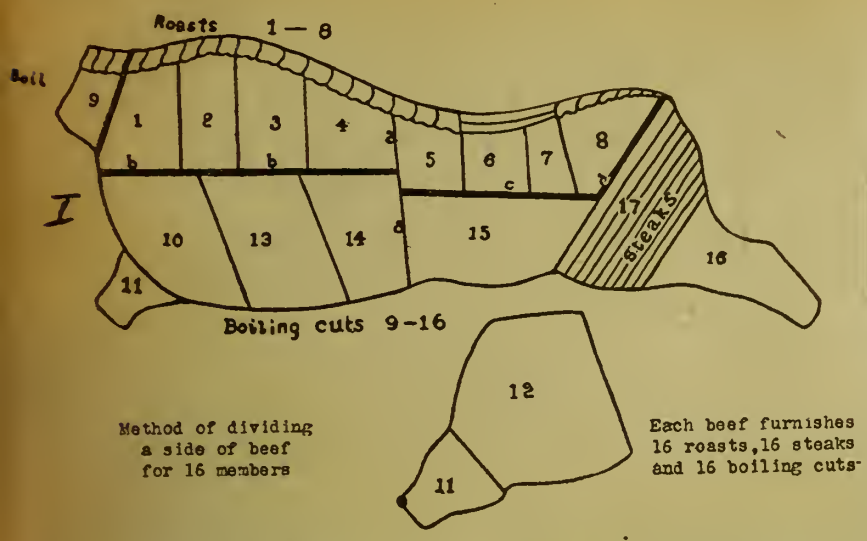

How to Organize Beef Rings

COOPERATIVE PLAN FOR FARMERS' MEAT SUPPLY

CHARLES I. BRAY

A BEEF RING is a co-operative association among farmers for the purpose of supplying themselves with fresh beef during the summer months. A ring usually consists of sixteen or twenty members, who each agree to furnish one steer of a given size and finish, one certain week during the season. These members meet in winter or early spring, decide on the time of commencing operations, prices, etc., elect a secretary-treasurer and other officers, and a man to do the butchering and cutting. Lots are drawn to decide the order in which the steers are to be furnished.

A sample arrangement would be as follows: Date of beginning operations May 15, weight of steer desired 850 pounds, number of members 16, valuation of dressed beef 25 cents a pound. B. draws ticket No. 1, which means, he must furnish the steer for the first week. A draws ticket No. 12, which means that his turn will come about the second week in August. If mutually agreeable members may exchange tickets to suit their own convenience.

Each steer is delivered in turn the night before butchering. The butcher who is paid a flat sum for his services kills and dresses the beef, and cuts it up in a manner approaching that shown in the accompanying diagram, so that each member receives one roast, one piece of steak, and a boiling piece. Each member has a separate hook on which his meat is hung after being weighed and recorded. The order of distributing the cuts is such that in eight weeks each member has received every cut on a side of beef, and the operation is repeated for eight weeks more.

At the end of the season another meeting is held to wind up the affairs of the ring for the season, and adjust the relative claims of the members. If C furnished a steer which dressed 460 pounds, yet has received only 440 pounds of meat, he must be paid for 20 pounds of meat at 20 cents, while those that have received more than they furnished are assessed to pay the other members. Should a member furnish a steer that is not up to standard the secretary-treasurer may value the meat at 18 cents per pound, for instance, or whatever seems right, and the other members will then be charged only 18 cents for the meat from that steer, while the man who furnished it will be charged the full price for all meat but his own.

The plan outlined above may be varied in many ways. Two parties may take a share between them if a full share is more than they want. Twenty members may form a ring and run twenty weeks. The principal advantage of the beef ring is that a continual supply of fresh beef is available through the summer months. Middlemen's profits are eliminated as the members get their meat for the cost of raising it.

In order to make a thing like this successful several conditions are necessary. The members must be congenial and willing to co-operate without friction. They must be located within reasonable distance of the place where the meat is killed. Ice must be available. In some localities the co-operative creamery serves as the meat distribution agency. The beef ring is distinctly for small farmers living at some distances from a meat market, and requiring only a limited amount of meat each week. The large ranch can usually look after its own meat supply. It is doubtful whether a beef ring would prove feasible in cooler mountain districts where meat can be kept fresh for several weeks without difficulty.

In a recent issue of the Kansas City Weekly Star there was a description of a plan for co-operative butcher shops run for the benefit of a group of Iowa farmers who thought this plan better than the beef circles. Each member owns one share of stock in the butcher shop and in his turn furnishes one head of stock, either beef, hog, or sheep as desired, for slaughter. The members are credited with the dressed weight of the livestock provided, minus a shrinkage of 15 per cent. They receive coupon books equivalent in value to the amount of meat furnished, allotments being apportioned equally in steaks, roasts and boiling pieces.

Each member is privileged to purchase as much or as little meat as he wishes and at any time he can cash in on his coupon book at the prevailing prices. Surplus meat is sold to the local trade, at a considerable sum lower than it can be sold by retail butchers. There are strict requirements about condition of meat, animals, age, etc. The shops are strictly co-operative, pay no dividends, are controlled and managed exclusively by the farmers participating, and so run that there is just enough surplus to pay the butcher and cover actual operating expenses. Membership under this plan need not be restricted, as in a beef circle. Either plan should work in well-settled farming communities that know how to pull together.

Encouraging to Stockgrower

Stockgrowers all over the West have been very much at sea regarding the probable demand for live stock at the close of the war. It was confidently predicted by many that present prices would be cut in two, but since the armistice has been signed announcement has been made that this country will be called upon for double the quantities of food that have been sent abroad during the war period.

At the National Western Stock Show, in Denver, during the week of January 18th, an effort will be made to inform the stockmen generally as to the real situation regarding the demand for live stock after the war. While there has been an increase in the sheep and hog population, it is believed that the cattle population will show a material decrease during the past year. The government is going to try to help increase live stock production of all kinds and plans looking to that end will be discussed at the coming Denver show when it is expected that there will be a representative gathering of stockmen from all parts of the country. The indications are that show week in Denver in January will bring together the greatest number of stockmen that have ever been seen at one place at the same time. Denver is making unusual preparations to take care of this crowd and in addition to the great Stock Show there will be held the annual convention of the American National Live Stock Association.

"Yes," said the lecturer, attempting an eloquent climax to his address, "all along the untrodden paths of nature you can see the footprints of an unseen hand."—Youth's Companion.

Plowing

Discing-Seeding

Threshing

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Why a Case Tractor Is More Profitable

THE number of working days for an advanced tractor like the Case 10-18 is rapidly increasing. Men thought of tractors principally for plowing twenty-six years ago, when we first began to build motor tractors.

In later years, with the introduction of our smaller sizes, men were satisfied with a maximum of 30 days' use per year.

But war-time conditions have brought about changes not only in the mechanical development of tractors, but in their adaptation for multiplied uses.

More Ways to Use Your Tractor

Our latest and best small tractor, the 10-18, is purposely designed for maximum use. It is adaptable for all kinds of work. It represents years of study in the field, dozens of extensive investigations.

The Case 10-18 is small and compact. It weighs little more than a team of horses. Its length is 102 inches, width 56 inches and height 54½ inches. It turns in a 22-foot circle, and can get around easily. It goes through a small gate or door and easily shares the road with other vehicles.

While rated at 10 horsepower on the drawbar, it develops nearly 14. While rated at 18 on the belt, it develops up to 24. This reserve power makes it ever ready for an emergency.

There are dozens of improvements in this Case 10-18. For instance, it has a one-piece main frame, with a four-cylinder engine mounted crosswise. This frame construction affords a dust-proof housing for the rear axle, bull pinion shaft, transmission and the bearings for these parts. It also provides a base for the motor.

This type of construction brings rigidity. It minimizes vibration and prevents disalignment of gears, which are all cut steel and fully enclosed. Thus we multiply strength, reduce weight and conserve power.

Another feature is its economical consumption of kerosene. It has a Case Sylphon Thermostat which controls the cooling system and insures complete combustion of kerosene. And it prevents raw fuel from passing by the pistons and diluting oil in the crank case.

An improved air-washer delivers clean air to the carburetor. No grit nor dust gets into the cylinders to minimize their efficiency and shorten their life.

Our illustrated booklet describes all the advanced ideas in the new Case 10-18.

We will gladly send a copy free. Or it may be obtained of a Case Dealer.

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That Packer Investigation

Another section of the Federal Trade Commission's report on the packer investigation was made public through Congress early in December. As before, there were charges that the big packers are in a combine in restraint of trade; that there is no actual competition in the big markets and that the seller of livestock is at the mercy of the buyer, because the latter has control of the market. The packers have made the usual denial of the charges.

During the investigation there was an evident desire on the part of one or two members of the commission to make political capital of the disclosures. The packers naturally took full advantage of that circumstance and the effect of the inquiry was discounted with a portion of the public because of the sensational way in which the disclosures were given publicity. The chief end seemed to be unfavorable publicity for the packers and not the application of a remedy to a condition that works harm to producer and consumer alike.

Furthermore, the packers were able to fall back on a splendid record for efficiency in supplying the government with meats for army use at home and abroad. The machinery built up by these aggregations of capital in centralizing meat packing and distribution is one of the industrial wonders of the age. Let the packers take full credit for this achievement and for the help they have given, and are still giving, the nation and her allies. It is on a par with the service rendered by all good citizens in patriotically supporting their government.

What the meat producer is looking for out of governmental investigation is constructive measures that will insure him a fair market. That the packers have the power to control prices is too apparent to need argument. That power is an inherent quality of their gigantic machinery, whether they exercise it in collusion or not. This power is damaging to the producer, who cannot consider fair either straight packer price control, or competitive prices fixed by buyers, independent or otherwise, without consulting the seller. The man whose fortunes are tied up in meat making has less to say about the price he is to receive for his product than anyone else concerned in the industry, and he should have most to say.

What he wants out of governmental investigation is neither capital for a political party nor whitewash or punishment for a big industry, but constructive measures that will give him a voice in determining the market value of his product, so that he may proceed with confidence in his operations, which must be planned a long time ahead of the marketing day. He is willing to take a chance on the law of supply and demand, but not on such an artificial factor as a temporary glut in his most convenient market, which often means a heavy loss to him in the face of a perfectly apparent demand for his product in the general market. This problem is no more intricate than any other condition seriously affecting food production, and it is demanding a solution. It is distinctly a concern of the government, a question of national policy in maintaining food production on a stable basis.

The centralization of meat packing has gone beyond the reach of competition. Government ownership of packing houses is an idle fancy, a socialistic dream. But governmental regulation is perfectly feasible in matters so vital as the food of the people. Let us learn a lesson from the famine conditions in Europe and Asia Minor. Sound statesmanship is needed to formulate a national agricultural policy that looks beyond immediate political gain and builds for the future of the nation. It is easy to say, "let the farmer organize and protect his rights as does the business man." The matter goes deeper than injustice toward the farming industry; it is a national responsibility involving the rights of the whole people, of which the meat question is just one angle, although the acute one at present.

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Free Range Difficulties

Frequent complaints are received from farmers whose crops are being damaged by livestock. In many cases the complaining farmers readily admit that they do not have a lawful fence. Although the fence they have may be just as well built as one of legal description, it may fail in some technicality or other and they are thus shut out from collecting for crop damage done by cattle. It is easy to advise such people to build lawful fences and we are constantly doing that, but there is another side to this question that has been too frequently overlooked.

Cattle owners using the free range too often have no regard for the rights of their neighbors. They wish to exact of them every technicality that the law provides, instead of meeting them half way in solving local difficulties due to a settling up of the country. It is this selfish attitude that is forcing the demand for a state-wide herd law.

We are not in favor of such drastic legislation and have opposed it on the ground that conditions do not require it in all parts of the state. We hold that the question is one that must be settled by community action according to local conditions. There are vast areas in Colorado that do not and never will require a herd law. There are other sections where a herd law is never talked of, because all lands are as well fenced as they are in the state of Iowa, and cattle are kept in small pastures which are part of the farm. Then we have plains and foothill country which has seen rapid settlement by small farmers in recent years, resulting in the cutting down of the range and the elimination of free grass. Most of the trouble occurs in the latter sections, due to two causes: the fact that the newcomers have not yet been able to build the best style of fencing and the unwillingness of the older settlers who run cattle to meet the newcomers half way in adjusting their local differences.

Under present circumstances there is only one course to be advised, and that is a spirit of neighborly tolerance on both sides. The cattleman who determines in his own heart to harass the homesteader into leaving the country, and the homesteader who exhibits the same spirit of hostility toward the cattleman are both courting the kind of trouble that results from such an attitude. We know there are communities in this state where these two classes are dwelling together in harmony, and we would like to hear from such communities, as to how they are ironing out their fencing difficulties.

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Regarding the Grasshopper

Now take the grasshopper, for example. No insect on earth more sorely needs to ask daily to be excused for living. The bee has a business. The wasp has a business end. The ant has an investment and the grub worm has a grudge. But the grasshopper has only an existence—an aimless existence.

When we say aimless we speak advisedly, for the scientists tell us that when a grasshopper catapults his corporate self into space by the propulsive power of his hinged hopping poles, he has no idea where he is going to light. It may be in the lake or the brush fire or the kerosene can or the pansy bed; it is all the same to him.

Examine his countenance. He looks the perfect fool. At the top of the head two bulging eyes as expressive as the eye of a dead carp; and below this a nose like a wooden plowshare. This is all. There is no forehead, no brain and no room for one. The grasshopper, we find, is an insect idiot. The best he ever did was to keep out from under foot of his betters.—Minneapolis Journal.

The writer of the above has never fished for trout in mountain streams. The grasshopper is not an insect idiot; he is good bait.

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Government Pinto Purchases

According to the weekly review of the United Bureau of Markets under date of December 3 recent bean purchases by the U. S. Grain Corporation amount to about 60 million pounds. This included 25 million pounds of Colorado and New Mexico pintos at 7 cents f. o. b., 15 million pounds Michigan white beans at 9 to 9½ cents, 5 million pounds California pink beans at 7 cents, and 10 million pounds California small white beans at 8¾ to 9 cents. It is announced that these purchases will provide for army and export requirements for the next 90 days.

Farmers received on an average of 6 cents for pintos on a recleaned basis.

It is interesting to note that pintos are now selling on a much more fair basis when compared to Michigan navies. A year ago the differential was about 5 cents per pound in favor of navies. This has been reduced to 2 cents. The review of the market shows Michigan choice hand-picked pea beans at $7.75 to $8 per hundredweight cash to growers, as compared to Colorado pintos at $6.00 in the producing sections.

During the corresponding week last year Michigan navies were selling at $12 in producing sections, while Colorado pinto growers were receiving $6.50 to $7.00.

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Federal Land Banks Prosper

In accordance with the provision of the Farm Loan Act, requiring that the Farm Loan Board "shall from time to time require examinations and reports of condition of all land banks established under the provisions of this act, and shall publish consolidated statements of the results thereof," the Farm Loan Board makes public the second consolidated statement of the condition of the twelve Federal Land banks as of October 31st, 1918.

The statement of condition shows that the banks have made loans to farmers to the amount of $139,378,156. Their capital stock has increased from $9,000,000 to $15,975,229. They have issued farm loan bonds to the amount of $140,122,200. They hold among their assets United States government bonds and treasury certificates to the amount of $14,850,000. Their excess of expenses and interest charges over earnings is $211,609.09, which is a reduction of over $200,000 since the previous semi-annual statement, and amounts to less than 1½ per cent of their present capital. Three of the banks show an actual surplus. Before the close of the present month, two banks will begin the repayment of the stock originally subscribed by the government. The total payments by borrowers overdue on October 31st amounted to $86,073, of which $51,117 was less than 30 days overdue, and only $10,730 was 90 days or more overdue.

A fair dairy cow has the earning capacity of $1,000 securely invested at 5 per cent. It is folly to sell for $125 or less a machine which equals the earning capacity of 1,000 gold dollars. —The County Agent.

In winning the war food proved an effective weapon; in keeping it won food will be our most valuable tool.

The Branding Iron

Applied by Elias M. Ammons

The greatest number of slackers we had during the war were the millions of acres of idle land. As our soldier boys settled the war abroad, let us open the way for them to dispose of these slackers at home.

✦ ✦ ✦

The soldiers settled the war, let them settle the lands.

✦ ✦ ✦

Let every locality in the state show what it can do in furnishing homes for returning soldiers.

✦ ✦ ✦

The Chamber of Commerce of the city of Houston, Texas, illustrated what can be done by such an organization through its agricultural and livestock campaign of the present year. It made the development of the country surrounding the city its leading project and through the "Boys' Pig Clubs" greatly increased the hog production in that locality. It raised a fund of $100,000 to loan farmers to buy dairy cows and increased the farmed area in Harris county, in which it is located 40 per cent. The direct benefit to the city was much more noticeable than was anticipated and the business men of the city intend to increase their efforts the coming year.

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The drouth which has continued for the past three years in some portions of Texas seems now to be pretty thoroughly broken. The crop the past year because of want of rain was less than 50 per cent of the normal, and livestock was equally affected.

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Dr. T. F. DeWitt of Parshall, Colo., who has, for the past six years, been a director of the American Hereford Breeders' association and for the past two years its president, has served out his term and retired. The Doctor's administration of the office has been unusually successful and the assistance which he has been able to bring to Western breeders has been much appreciated. Notwithstanding the strong pressure to give various localities representation on the Board of Directors, Colorado was again signally honored by the selection of Mr John E. Painter of Roggen to succeed Dr. DeWitt on the Board of Directors Both Dr. DeWitt and Mr. Painter have been among the strongest supporters of the stock show and have built two of the most noted breeding herds of Herefords in the country. The Rocky Mountain region appreciates the double honor of these two selections and the Hereford Association will find its second choice just as wise as the first.

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Among breeders who have received their chief inspiration for the growing of fine cattle from the Denver Stock Show, is Mr. W. N. W. Blayney of Denver. A couple of years ago he bought the grand champion bull Wyoming, paying $5,000 for him. Since that time Mr. Blayney greatly improved his herd. At the Royal Show at Kansas City recently, Wyoming stood second and had he been handled only for show purposes, many producers believe he would easily have taken first place. It was the common expression at Kansas City that he is one of the best bulls in the country Mr. Blayney's exhibit at the Royal received many commendations from the best judges, and it now is generally recognized that he has entered the field as one of the most successful pure-bred Hereford breeders.

✦ ✦ ✦

For the wheat crop of 1917 the farmers of this country received an average price of $2.05 per bushel; for 1916, $1.44; for 1915, 98 cents; 1914, 99 cents; 1913, 79 cents, as estimated by the Bureau of Crop Estimates. In the past year, state averages (excluding states producing less than 1,000,000 bushels) ranged from $1.83 per bushel in Utah to $2.66 in South Carolina.

You must redeem your War Savings pledges before the end of the year

Comment by Farmer Putnam

MISSOURIAN DISCUSSES GOVERNMENT OWNERSHIP OF RAILROADS AND OTHER QUESTIONS

NOW that the war is over, us farmers has got a lot of things to settle. While the fightin' was goin' on we kept our heads shut and sawed wood, but now that the boys is comin' home, why, we might as well git busy and straighten out some of the things that's been a-botherin' us fur a long time. I had to laff the other day when I was readin' the history of the Grange and seen where it was organized in 1867 "because farmin' in the southern states was backward on account of the Civil war, and there was a lot of dissatisfaction in the West and Northwest because of freight rate discrimination, and it was also claimed that the middleman exacted exorbitant prices for agricultural implements."

That sounds just like it was yesterday, especially that thar middleman business. It seems funny that with all the organizin' us farmers has done in the last fifty years we hain't got to the point yet where no injustice is done to us. How does it come so? What is the matter with our organizations? Why is it that we has got the same problems today that they had in '67 when the Grange was first organized. I dont pretend to know, but it just seems to me that this hull life, especially farmin', is just one durn problem after 'nuther, and that so long as we live under the curse of Adam who was made to till the soil in the sweat of his face, why, we got to do more or less figbtin'. It don't discourage me; I just nachually take another hitch in my belt and say, bring on your next problem.

The next thing we got to consider is this here railroad question ag'in. It's allus comin' up in one form or 'nuther. Now the question is, is government ownership of railroads a good thing? I seen where McAdoo has quit. It's too much fur him. He hung to the job of runnin' the railroads in war time, but with peace comin' on he felt that thar was a big scrap ahead, and I don't blame him much fur leavin' it to some other feller to settle. Durin' the war we all enjoyed peace, but now that peace is upon us we'll see some rough-and-tumble fightin' in this country over political questions that hadn't orter be political. I reckon the democratic party is countin' on me to line up with them fur government ownership of railroads, but I ain't sure that I'll do it. Now when I lived back in Missouri I never raised a hand in protest of any party question and the bosses could allus call on me in a crisis involvin' the fate of the nation to help pull their chestnuts outen the fire. But sence I come out west I feel like bustin' my party loyalty wide open and votin' as I please. I hain't exactly lost my democracy: a feller cain't git shet of what he's horn with so easy, but I've done quit bein' a hereditary democrat even if my first name is Thomas Jefferson.

Now take it on that thar railroad question: they is two or three ways of lookin' at it. If I was a engineer or conductor pullin' down $250 to $350 a month fur eight hours' work, why, I'd favor government ownership, because it means high wages, easy hours and nobody to boss you. Under government ownersbip a railroad man kin tell the superintendent to go to Mexico, and appeal his case to the congressman from his destrict. You hear some fellers say that government ownership is fine, because the travelin' publick pays the bill. But don't fool yourself. If the travelin' publick was payin' the bills it would be all well and good, but it hain't the passengers, it's your hawgs and my steers that we ships and them implements and other stuff we buys that has to foot the bill.

It's the farmer tbat pays the freight and the freight pays the high wages that the government gives them workingmen. Of course, some people argues that high wages means the full dinner pail, and when everybody has got money why then we're happy and the country is prosperous. That listens good, but I never could see no sense in havin' a big pile of silver dollars just to throw it to the birds. The question is, what will a dollar buy? About forty cents' worth today, and that's mighty durned expensive prosperity.

I hain't been able to make up my mind on this question; it's confusin', and I'm waitin' fur Senator John Shafroth to come back from Washington next spring to talk it over with him. He was temporarily defeated, and he is expectin' to take a brief vacation from his duties as a Colorado statesman. I'm goin' to ask him his Honest John opinion when he comes home and is out of office on some of them things that's a-puzzlin' us farmers, and see if I cain't git some inside information that'll be good to pass out to you-all before they is another election. I wouldn't mind hearin' from some of my farmer friends about what they think on the railroad question, because I reckon it'll be up to us to settle whether us taxpayers wants to buy a joblot of transportation systems from the hungry stockholders. My present mind on the subject is that it would be a bad thing fur the government to take 'em all over. but I wouldn't see no harm in assumin' supervision of a few main trunk lines runnin' acrosst the continent east and west and north and south, and sort of holdin' tbem as models fur other railroads to live up or down to.

Now the next thing is this question about abolishin' the middleman. The middleman is about as popular among us farmers as the defunct kaiser, but he's got to be dealt with. We got to have buyin' and sellin' agencies, and if us farmers don't run 'em ourselves why somebody's got to give us the service. The remedy ain't in kickin' all the middlemen out of business, but I think it's a good deal like the railroad business. Us farmers had ought to have some big co-operative schemes like them that has been started in several places, fur handlin' the produce direct and buyin' supplies direct on a big enough scale to control the market.

We got somethin to learn from this war in the price fixin' line. A lot of fuss has been made about fixin' the price on wheat and not fixin' it on the things the farmer has to huy, but you don't hear nuthin' further about it now; we're tickled that we kin be sure of the figgers fur the 1919 crop, and I think the best evidence that the price was reasonahly fair is in the acreage. Of course, us farmers done a good many things because we was patriotic, hut I think very few lost money on wheat at around $2. What loss they had was on what they had to huy fur the two-dollar wheat.

Now I'm here to say that it wasn't the fixed price on wheat, but the buyin' power of the government that kept things at a level last winter, when we got along without food riots. The U. S. Grain Corporation was the biggest buyer in the world and could-n governed the market without a fixed price.

What we need in this country to give us farmers a square deal is fur us to control the buyin' and we kin do that on grain and provisions by havin' a hand in the board of trade. Our mistake has been that we was allus satisfied to git the cash, and we didn't bother much whether it meant profit or loss; we seen the dollar in the hand and that was enough. The war has woke us up to realizin' that without farmin' the world cain't live and now if we play our hand right we'll glt it where we kin control the machinery of distribution. What we need is not government or state ownership of the manufacturin' and distributin' plants, but control by the federal government of the price-makin' machinery, such as them boards of trade. All speculation in foods and cotton should be prohibited by federal laws, and government quotations should be based not only on supply and demand, but on cost of production.

That sounds kind-a complicated, but the details kin be worked out, and if us farmers then will fix ourselves by providin' more storage, either by co-operative or by government warehouses, why, them middlemen will have to be satisfied to deal on a real and not on a speculative market. Of course, this hain't a-goin to quite solve the meat problem, because even with the government makin' the livestock quotations, as they is now doin', no way has been found to git the packers to handle a surplus when it rushes in on 'em. More local markets and less concentration at the big ones is the answer to that thar question. I hain't none of them highbrow economists and maybe this here program kin be shot full of holes, but I got two columns to fill every time, and if these here remarks gits some other farmer to figger out somethin' better, why, go to it. This is every farmer's business and those as has ideas is welcome to send 'em in. Don't come to the ranch and try to argy this thing with me in pusson like Clarence Swayze done, and we come near gittin' in a fist fight over it; please use the United States mail when you argy with me. It'll only cost you three cents. I've got enough conversation on my hands here at home with Josephine.

THOMAS JEFFERSON PUTNAM

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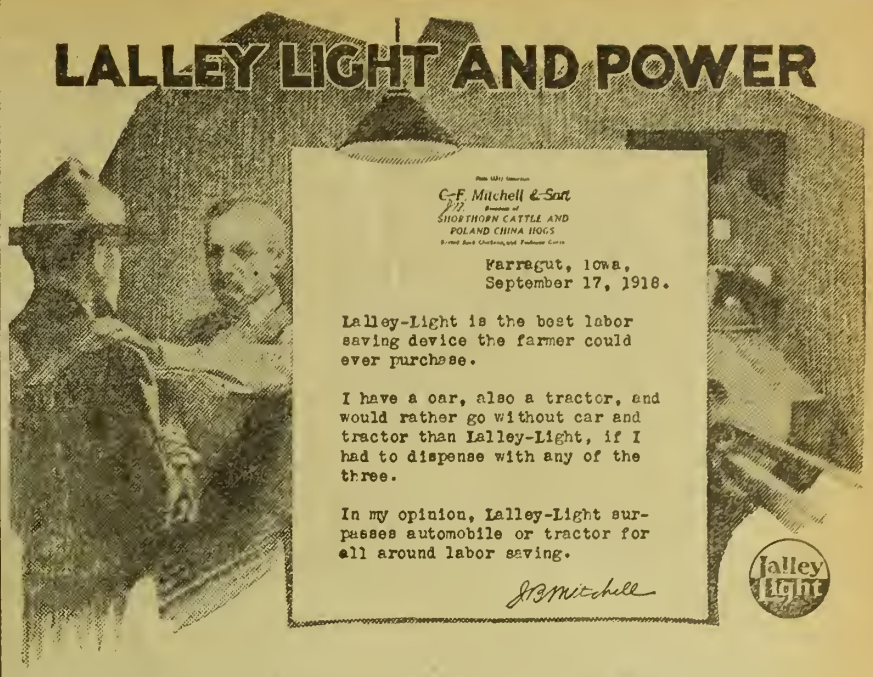

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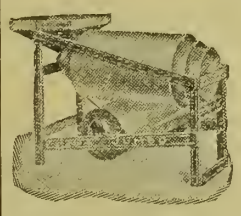

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Readers are invited to make generous use of this department. Questions regarding any branch of farming, livestock production, animal diseases, legal matters pertaining to the farm, homestead inquiries and the like cheerfully and promptly answered by letter and thru the magazine. Address all communications to SERVICE BUREAU, WESTERN FARM LIFE, Denver, Colorado.

Taxes on Homestead Land

Answer to J. S., El Paso county, Colo.: In answer to yours regarding proving up on your homestead, we have the following from the Register of the U. S. Land Office:

"Under the act of June 6, 1912, the entryman has 5 years from date of entry within which to make final proof, and no taxes are due on the land until final certificate issues. Taxes on the improvements, however, can be assessed and collected.

Validity of Land Lease

Last spring A and B rented a place owned by a stock company from C, who was the company's agent. The transaction was not put on record and now it appears that C has leased the place for winter pasture to a cattle company. If this lease is on record can the cattle company hold it against the earlier lease or can A and B hold it till the 1st of March. They have possession at present and B is living on the place. C's contract on the place is out the first of the year.—A. B., Custer county, Colo.

In my opinion A and B can hold the place according to the lease. The lease should have been recorded, but A and B were in possession. I would much prefer to see the lease before concluding myself in this case.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver.

Quieting a Tax Title

Have purchased a farm from a party who bought it at the sale. This piece of land was sold for taxes in December, 1910, deed being made for same in February, 1914. Since buying this land have learned there is a mortgage on the land given by the original holder. Is this mortgage still good? The man who let this land sell for taxes will not make me a quit-claim deed. What must I do to clear up title?—J. T. P., Morgan county, Colo.

An action should be brought in the district court to quiet title to this property, and if the proceedings were regular the mortgagee is cut out, as the taxes are first liens. Of course, I do not know what shape this title is in and only an examination of title would disclose that.—Hamlet J. Barry, Attorney, 724 Equitable Bldg., Denver.

VETERINARY ADVICE

Questions in this department answered by Dr. George H. Glover, head of the Veterinary Department, Colorado Agricultural College.

We have a mare which is hard to catch and used a short piece of chain on one foot as a hopple. About ten days ago she came up for water one morning and I found she had pulled the shoe on that foot partly loose and the chain was caught right across her foot and she limped a very little. I pulled the shoe off and let her go. Two days later she still limped and we thought she must have bruised the frog, so my husband reset the shoe, but instead of getting better she got worse and we think now it must have been a strain, for she seems to be stiff in either the first or second joint above the hoof and there seems to be some fever there. My husband thinks she may have got some gravel in her foot, but I would like your opinion.—A. V. B., Custer county, Colo.

In all probability the lameness is associated with wearing of the hopples. Now that the shoe has been reset it will be well to keep the hopples off for a time and depend largely upon rest in the hope of recovery. If there are indications of soreness, liniments might be used to advantage. Hand rubbing and bandages in this connection are to be considered. She probably is not "graveled," but is suffering from injury inflicted by the chain. Hot poultices of bran or flaxseed cake might appropriately be applied in either condition. The poultice can be applied nicely by placing it in the middle of a burlap sack, and after placing the foot bring the edges of the sack up around the leg and secure with stout cords above and below the pastern joint. Poultices, to be effective, should be kept warm, and this can be accomplished by occasionally lifting the foot and dipping it, poultice and all, in a bucket of hot water, being careful that the water is not too hot. If it should chance to be a gravel the horse will be extremely lame; in fact, unable to place the foot on the ground, and the pus will accumulate at the top of the hoof and possibly escape at the hole where the gravel entered. This is a very serious condition and ruins many horses.—G. H. G.

Work Horse Needs Exercise

I have a five-year-old horse that is not doing well. He eats good and stands the work well, but his hair is rough and his ankles on the hind legs swell if he stands in the barn a day or two. Please tell me what to do for him.—G. M., Weld county, Colo.

Swelling of the hind legs in a horse that stands in the barn for a day or two, does not necessarily indicate a serious disorder. The hind legs are a long way from the heart and in the heavier draft breeds, of the lymphatic type, a slight edema of the hind legs is common even in horses with very good health. It is a mistake to keep a work horse standing in the barn for a day or two. There is much danger of azatouria the first time he is taken out after the enforced idleness. It is especially hard on a horse to stand on a plank or cement floor. There are very few nights in Colorado when a farm horse will not be better out under a warm shed that is entirely open on one side. An opportunity to make his own bed, to rest his feet and legs, to get exercise and fresh air, means much to a horse, and he will on the average last much longer. To be more specific, edema may be caused by heart failure, poverty of the blood, lack of tone in the local lymphatics or blood capillaries, etc. "Swamp fever" sometimes starts with symptoms like those indicated. The best treatment is to get the horse under the best possible conditions. See that his teeth are in condition to properly mastimate his food. There may be something wrong in cutting his last permanent teeth. If he is badly infested with intestinal parasites, this should receive special attention. Feed some grain and a limited amount of good hay. Pull his shoes off during the winter months unless he is being used every day under conditions where it is absolutely necessary to keep him shod. The treatment indicated will no doubt improve the condition of the horse.—G. H. G.

Probably Swamp Fever

I have a large black work horse about ten years old, weight 1,500 lbs. For the past two months he has seemed very much run down and seemed to take no interest in life. Six weeks ago when walking he would lift his hind feet very high and a swelling appeared each side of the tail extending down into the ham. He was not working, but in the pasture, and after a short time seemed all right again. The past week we worked him a part of three days on the plow, when he again became depressed. His eyes looked very bad and he was so stiff in his front legs he would move back and forth in a front and back movement. Te seemed to want to eat, but would only nibble very little. There was a slight swelling on the breast. I have described the case as well as I know how. Can you tell me what is the matter and prescribe a remedy, for which I shall be very thankful.—W. E. W., Routt county, Colo.

Some of the symptoms given indicate founder (laminitis), but the chronic nature of the disease suggests something more. Having been "run down" for two months, but still retaining his appetite, rather indicates infectious anemia (swamp fever). This disease usually runs a chronic course and results in death after several months. There are no pronounced symptoms; the horse simply grows weaker and after several weeks or months is unable to stand, and succumbs soon after from complete exhaustion. When first infected the horse tires easily, the heart beats strong, he frequently yawns like a tired person, and in spite of a fair appetite loses flesh rapidly. The mucous membranes, like the inside of the upper lip, become pale and are frequently studded with red hemorrhagic spots. The infection is transmitted by the urine and probably by other means. Swamp fever is quite common in the western states, and while only a few animals in a herd are usually affected, the aggregate loss is quite heavy. Since we are not at all sure of the diagnosis, it might be well to make a more careful examination and report. Examine the teeth to be sure that the animal can masticate his food, and give one tablespoonful of Fowler's solution of arsenic mixed with the feed twice a day.—G. H. G.

Until next harvest the American table must be set according to the food resources of the world and the needs of Europe.

Bill—This sea is orful.

Arry—Oh, I dunno. It's nice to see froth on something these days.—

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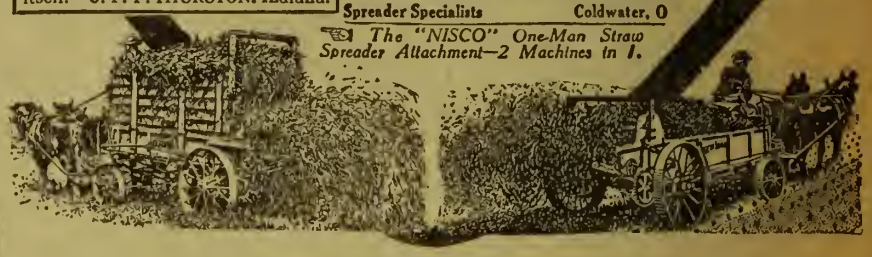

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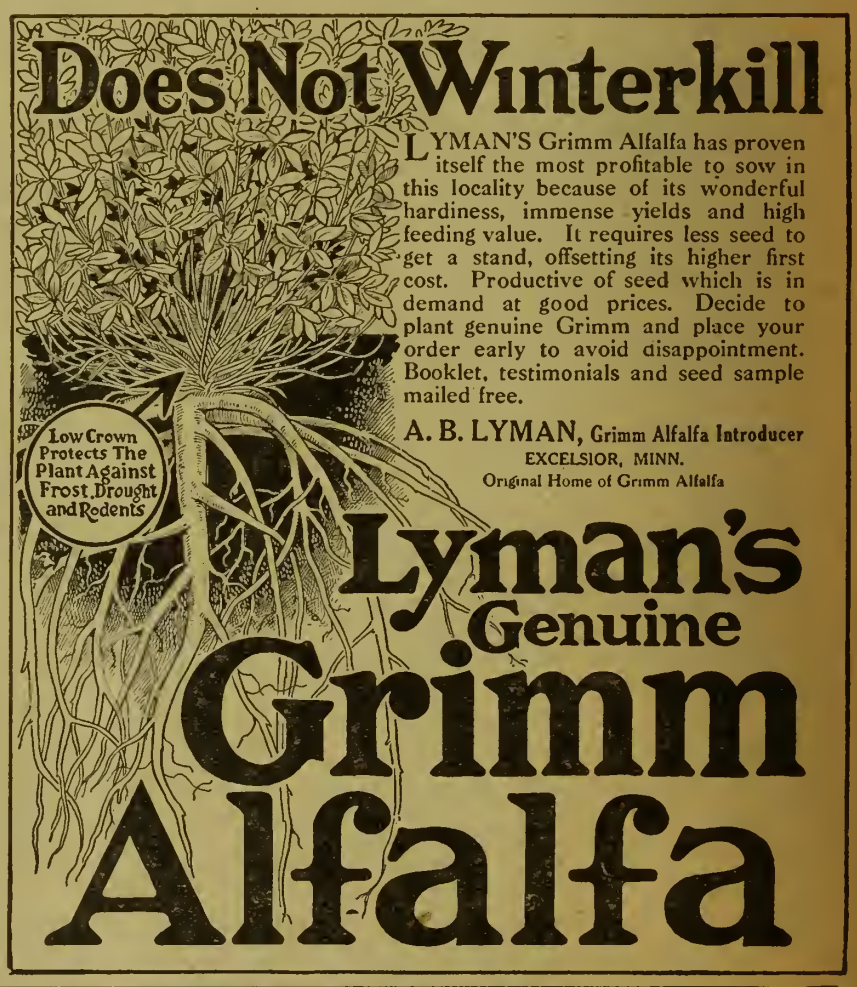

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CHAPTER XV.
THE PLAN.

The great bay on which lies the Barbette bites deeply into the southern coast of Maine. At its mouth it is some twenty miles wide, but there is a large island and a chain of smalier ones across its mouth, so that the open water does not total more than half a dozen miles.

Opposite the Barbette the bay is ten miles wide. Southeast of the Barbette lies a long, narrow island which divides the bay into two parts, the island running north and south for more than a dozen miles. Small craft can navigate the eastern part of the bay; but the largest liners move securely in deep water in the western channels.

The submarine chaser which had come at Eben's signal to take him from the monument crossed from the monument to the eastern side of the island and ran southward through the shallower waters there. Its destination was the destroyer base at the mouth of the bay, whence the fast craft ranged east and west along the coast and protected the steamer lanes in the waters to the southward. Carl Linder was commander of the chaser; and he and Eben stood on the little bridge together during that southward race.

They rounded the northern end of the island, and its wooded shores unrolled past them as they sped southward. Here and there they saw summer cottages nestling among the birches and the evergreens; and once or twice they passed colonies where great palaces sat back upon the hiils and beamed upon the blue waters of the bay. The mountains on the western shores of the bay peered at them across the top of the island; and when they passed the southern end of the island and turned diagonally across toward the destroyer base these mountains seemed to spring into the sky above their bows.

The bay shores below these mountains were indescribably beautiful. They were steep and rocky; and they were clothed with birches whose white trunks gleamed through the green f-liage; and here and there the darker shadow of an evergreen appeared. Rocky ledges ran out into the water, the sharp teeth of a great bouider projecting here and there above the surface. They passed a fishing boat bound up the bay with its catch; and they saw two men in a dory puiling a trawl, while their motor boat lay at anchor beiow them. The great white Boston boat came proudly up the bay and passed them; and the people iining her rail waved hands and hats and handkerchiefs in greeting to the gray chaser.

At one town that nestled at the foot of the highest of the shore range of mountains they saw two schooners under construction. In one the four tall masts were in piace, towering high; and Eben said: "She'll be launched shortiy." The other was a mere basket of timbers, the curving ribs stili waiting for the planks that wouid sheath them.

They rounded a last point and saw the open sea ahead of them. At the right a lighthouse on the end of a jetty marked the harbor that served as base for the destroyers. They ran along the jetty, and Carl pointed to a grassy knoll at its landward end and told Eben: "Our defense batteries are there."

"A battleship could knock this piace all to pieces," Eben commented; and Carl laughed.

"If we didn't knock her to pieces first," he corrected, "we have six subs here. Big ones. And the shore batteries are all modern. There are six fourteen-inch guns on the south side of the entrance." He pointed to the grove of pines that sheltered them.

Over the low stonework of the jetty Eben couid see the harbor and the town beyond. The harbor was shaped like a heart, of which the point was the entrance. The jetty formed one of the angles of this point; the southern shore the other. Within the harbor was divided into two lobes by a low spit of land, at the end of which was set the steamboat pier. In the bay south of this pier a dozen black destroyers were lying; and ashore black smoke rose from the machine shops where steel clanged on steel and men labored endlessly. On the north side of the pier lay the town, and along the shore five wooden ships were building.

They passed the lighthouse at the end of the jetty, and a destroyer at the mouth of the harbor swung toward them and signaled them to stop. The chaser obeyed; the destroyer slid past a biscuit's toss away, and an officer hailed through a megaphone and recognized Carl. "Go on in," he dericted; and the chaser swung about and raced toward the bay where the dozen destroyers lay idiy tugging at their anchor chains.

"You want to go to Admiral Bunt?" Carl asked.

Eben nodded.

"He'll be ashore at headquarters. I'll land you there."

The chaser threaded her way through the destroyers, acknowledging the greetings that were calied to her, and touched lightly at a pier, the piles of which were still bright and new. Lines were flung and made fast, and Eben climbed a short ladder from the chaser's low deck to the pier. A marine sentry halted him.

"I want to see Admiral Bunt," Eben told the man.

The sentry directed him along the pier. At the landward end a two-story wooden buiiding stood; and there was a guard at the door. Eben told his errand, and the entry directed him up a stair on the outside of the building. He entered the door at the top and found himself in a small, bare room with a bench at one side and a desk at one end. At this desk a marine sat behind a typewriter. He rose, questioned Eben, entered a door at the left and returned to escort Eben to the admiral.

Eben found himself in a large room with many windows which looked out across the harbor where the destroyers lay. In the middle of the room a large, glass-topped table heid a detail chart of the coast of Maine and of the sea to the south and east. The map was beneath the glass; and upon the giass saiied many little ships of lead, destroyers and chasers and a cruiser here and there. An officer with a sheaf of despatches in his hand was changing the position of some of these leaden craft.

Through a door in the rear Eben could see a wireiess room. A man sat there with receivers clamped to his ears. At a desk to one side of the large room there was a telephone switchboard; and another man in uniform presided there.

There was no one else in the room; but a moment after Eben entered, the admiral came in through a door opposite that by which Eben had been admitted. He smiled and extended his hand to Eben. "Good morning, Mr. Scour," he said pleasantiy. "I've talked with you over the phone. Giad to have this opportunity of greeting you."

"Thank you," said Eben. "I've come with good news, I believe."

The admiral, an erect man with a bristly gray mustache and eyes that were almost hidden in tiny folds of wrinkled lids, eyed Eben intently. "We are glad to hear such news," he said. "Have you—found something definite?"

"Yes, sir."

"Sit down. Teli me." He pointed to a chair beside the desk, took a chair himself, and waited for Eben to speak.

"The Germans are to mobilize twenty-five suhmarines in the bay here within four days, for an attack on our transports," said Ehen quietly.

The admiral's eyes gleamed. "You have reported that something of the kind might be contemplated," he said. "Are you sure of your facts?"

"Yes, sir."

"How did you discover them?"

"I overheard their—spies—report to the commander of the German submarine fiotilla."

"How and where did you overhear this?"

Eben rose and walked to the table with its chart. The admiral foiiowed him. Eben pointed to the dot that represented the monument. "When Lieutenant Morse attempted to arrest me," he said, "I swam off there and found Ensign Linder there. He supplied me with clothing and food, and I remained there on watch. Last night two persons came there and used the light for signaling, as I have reported their doing before. I had taken to the water when they arrived. Another motor boat joined them, and I heard a rendezvous appointed for one o'ciock at the bell buoy." Eben pointed to the huoy upon the chart. "I swam to the buoy—"

Turn to Page 14

Plow an Acre an Hour—on Kerosene

HUNDREDS are doing it and more with the "Allwork"—the light tractor that's different. Burns kerosene perfectly—has the largest 4 cylinder motor on any 3 plow tractor—mounted crosswise on the frame. Direct spur gear drive, no intermediate; belt pulley on direct drive from crank shaft extension. Four wheels; turns in a 12 foot radius. The

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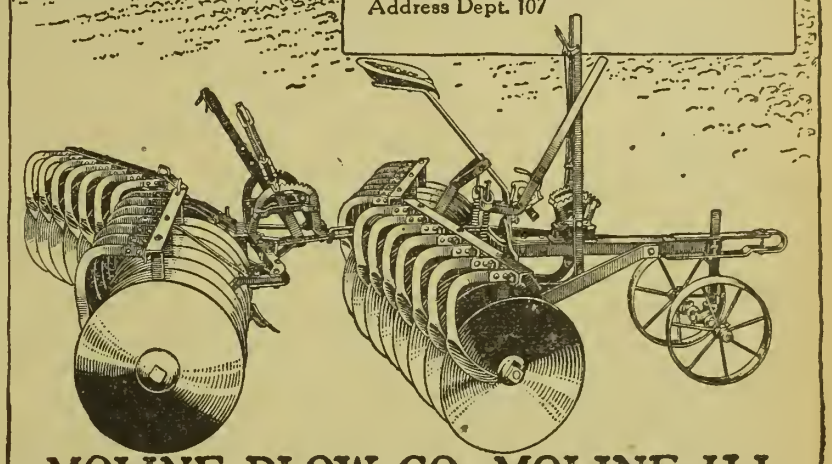

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THE THIRTEENTH ANNUAL

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Dairy Barn or Open Shed?

"Cows consumed somewhat more feed and produced slightly more milk when kept in open sheds than in closed barns, while their increased production did not offset the extra cost of feed," reports the United States Department of Agriculture from the results of investigations conducted at Beltsville, Md. "Which, the open shed or closed barn for dairy cows?" has been a moot question among the dairy fraternity for many years and the data offered by the federal department is illuminative in clearing up the problems. From present knowledge, the open shed is not thought to be adapted to regions of extreme cold, deep snows or high wind.

Considering all operations, other than milking and feeding, slightly more labor is required to care for cows under the open-shed system of management, while there was a tendency for "boss" cows to deprive the weaker animals of feed, and the normal advantages of the shed which resulted in decreased production on the part of the more timid cows. The manure was apparently well preserved, until it could be hauled to the land, under the open-shed system, and it was handled more economically than in the closed barn. Furthermore, cornstalks in the manure were sufficiently decomposed to be handled successfully with the manure spreader.

Under the open-shed system, 68 per cent more bedding was required for each cow, but the cows were cleaner and more comfortable. There was little difference in the time required to bed the animals under the two systems, but the rapid rotting of the cornstalks or other coarse material under the open-shed method makes their use for litter in the open shed practical. Despite other results to the contrary, the results of this experiment showed that there was little if any difference in the frequency of injuries to cows under either open-shed or closed-barn conditions.

In general, little difference could be noted in the contentment of the cows under the two conditions. Some of the animals appeared to be more contented in barn stalls; others more at ease in the open shed, while still others apparently had no preference. However, under open-shed conditions the cows had more freedom, as they could lie down and get up with ease and could select a clean place on which to lie whenever they chose. Furthermore, they had access to an abundant supply of fresh air. In many poorly ventilated dairy barns the air supply doubtless would be an important factor in making the open shed more desirable as a source of complete cow comfort.

The data shows that in the instance of 21 cows which were kept under the two systems, 15 animals produced more milk and butterfat when kept in the open shed, while 6 cows showed a higher production when maintained in the closed barn. The total production while in the open shed was 34,630.9 pounds of milk containing 1,535.15 pounds of butterfat, and that in the closed barn was 31,898.7 pounds of milk containing 1,437.41 pounds of butterfat. Accordingly, under the open-shed system, there was a total increase for the period considered (about 80 days) of 2,732.2 pounds of milk and 97.74 pounds of butterfat, or an average for each cow of 130.1 pounds of milk and 4.65 pounds of butterfat. The total number of months compared under each system was 57, and the average time was about 80 days. Calculations from these figures indicate that there was an average monthly increase of 48 pounds of milk and 1.7 pounds of butterfat for each cow while stabled in the open shed.

It is largely a matter of personal preference for the farmer to determine under which system, open shed or closed dairy barn, it is most profitable for him to maintain his dairy cows, the specialists conclude. Previously it has been the almost universal practice of dairymen to keep their cows in closed barns, although in recent years the open shed has gained considerable popularity.

An investigation conducted among Illinois dairymen emphasized the labor-saving feature of the open shed as its special point of commendation. The Maryland Agricultural Experiment Station reports from similar investigations that the open shed is desirable because it is cheap, it involves less labor, it favors the better conservation of manure, it keeps the cows cleaner, it provides a better supply of fresh air and light, while it does not result in the animals horning or butting one another, so as to cause serious injuries. The Pennsylvania Agricultural Experiment Station verifies the above, and reports that cows kept in open sheds have keener appetites, and consume more roughage than those kept in stables, although the milk yield of the out-of-door animals decreased more rapidly each winter than that of the cows stabled inside. More bedding was required outside, but less labor was necessary to keep the cows clean. Sudden changes in the temperature caused a large r decrease in milk yield in the case of the outside group. Further information along the line of the investigations may be had from Bulletin 736, "The Open Shed Compared with the Closed Barn for Dairy Cows," which is now available for general distribution.

Butter Making Hints

Suggestions for making good butter:

Use only slightly sour cream with a clean acid flavor, free from dirt and lumps of curd.

Pay strict attention to the temperature at which churning is done and use a temperature which will result in butter granules about the size of pop corn. If cream is too cold the granules will be small and hard, if too warm they will probably be large and soft. Take temperature with a thermometer.

Drain buttermilk well off of butter before washing, then pour in a dipper of water to rinse off the last of the buttermilk. Following this add water for washing and give only enough washing to rid butter of buttermilk—six or eight revolutions, if a barrel churn.

Work salt into butter at the rate of three-fourth of an ounce to the pound. Work until water is expelled and butter appears waxy.

Put the butter up in pound prints, wrapped in parchment paper and place in a butter carton on which is the buttermaker's name.

Be clean and neat with every operation and insist that "Pa" bring in clean milk.—Missouri College of Agriculture.

Another Big Holstein Sale

There will be another chance for buying good Holstein cows, the kind that put milk in the pail, when the Jarosa Ranch herd is dispersed early in January at Longmont, Colo. Howard M. Jay, owner of the ranch, has his hands full with horses and has decided to sell his entire herd of Holsteins at public auction. The date will be announced in our next issue.

A Profitable Cow

Among the dairymen who keep accurate records of their cows, have frequent tests made of the milk and know in a businesslike way just what their cows are doing, is H. J. Koch There is no guess work about it. For

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instance, Mr. Koch has a high grade Holstein cow which is really a profitable one. This cow freshened April 22. From then to November 1, or 192 days, she produced 8,323 pounds of milk, valued at $341.89. Feed cost $59.65, leaving a balance on the right side of $182.24. During May she produced 1,919 pounds of milk; her best day was 67 pounds. During May she produced 55.78 pounds of butterfat or the equivalent of 67.16 pounds of butter. Her average for May was 61.6 pounds of milk daily.—Warren F. Wilcox in Montrose Press.

What the Manure Is Worth

The ordinary well fed dairy cow excretes at least ten tons of manure a year. A great deal of this amount is dropped in the pastures and lots and is never recovered. Assuming that half the entire amount is lost in this way, we have five tons collected at the barn to be disposed of in some manner. According to the soils department of Missouri College of Agriculture, manure has an actual value for increasing crop production amounting to $4.20 for each ton used. This gives the amount of manure collected from each cow a fertilizing value of $21 a year. The man who has a herd of ten cows can easily figure for himself that his manure pile has a value of approximately $210. Save the manure, take good care of it, apply it to the land and reap the profits, and do not fail to give the dairy cow the credit that is due her.

Sunflower Silage in Wyoming

One year ago a Goshen county rancher planted a part of his field to sunflowers for use as silage and was so pleased that this year he has increased his acreage. The increased cost of feed and the publicity given to the sunflower as a crop being capable of producing a large tonnage of silage, have been the direct causes of 69 acres being planted to sunflowers this year in Sheridan county.

Six ranchers have planted this crop this year so that different sections, soils, tillage methods, rates and dates of planting, irrigation practices and management will be studied. The crop has been grown on dry as well as on irrigated tracts. Later in the season a complete statement will be tabulated describing the soil, date of planting, rates of planting, cultivation given method of harvesting and tons received per acre.

During the past season the crop has been planted from May 20th to June 20th so of course maturing at a wide range of dates during the months of August and September. Due to this wide range of planting, harvesting has been delayed, so that at the present time the only complaints heard are: that sunflowers are ready for harvesting at the same time as the second cutting of alfalfa and grains. With the experience of this season it seems a very wise plan to so arrange the time of planting that the date of maturity of the sunflowers will be earlier than the harvesting of late crops.

The instance of two crops occupying the same harvest time shows distinctly that farm management should be practiced, because to utilize labor advantageously and secure the best quality of feed with maximum yields, definite plans must be followed. Next year the planting will be earlier.—H. J. Thomas, Agricultural Agent, Sheridan county, in Wyoming Farm Bulletin.

Farmer Putnam on Silos

I reckon I might as well tell the truth and admit that silos has their bad points. Now when I first put up a stave silo on my farm at Stockbridge, Mo., before comin' to Colorado, one of my customers, a partickular old lady down to St. Joe, kicked about the butter havin' a nutty flavor. Fur a while I didn't know what to make of it, but by and by I set a watch on my feed lot and I seen them durn woodpeckers was swarmin' around the top of the silo. On climbin' up I seen they had pecked a lot of holes all around the top and they was droppin' acorns through them holes thinkin' they was storin' 'em up fur winter. Nachually the cows ett the acorns in the silage and that give the butter the nutty flavor. If they was any acorns out here in Colorado I'd put up a stave silo and sell nut butter at a high figger. Another bother about feedin' silage was that the cows liked it too well; they just about quit eatin' roughness and I had to build two silos to keep 'em satisfied. This made the milk flow so durn strong that I had to increase my milkin' force, makin' me more trouble and work. I finally give up and come out here to Colorado to rest. My advice is, don't build a silo onless you're prepared to handle more income.—Thomas Jefferson Putnam.

Fattening Calf for Butchering

Will you please tell me how I can fatten a calf for butchering? The calf was born May 29 so is nearly ready to wean from milk. He has had in addition to skim milk and grass about a pint of ground corn since about the middle of August. He seems hungry now for millet hay and I think would leave the corn for that. Would scalded or cooked oats be good and do people ever use cottonseed meal to fatten a calf that age? He is hearty and apparently thrifty, and if I knew how to fatten him I would like to butcher him this winter for our own meat, as his mother was half Jersey and we do not wish to keep him till he is three years old. Must he be fat enough so his ribs cannot be felt by passing the hand over his side? What other conditions should be met before he is ready to butcher? We have corn fodder, millet hay and corn. The calf has never sucked the cow after his first day.—W. L., El Paso county.

It is not necessary to cook or scald grain for a calf as old as the one you have. Oats and corn should make a satisfactory fattening ration with the addition of linseed meal. I presume millet hay and corn fodder would be the cheapest rough feed that you would feed him, and he should get linseed meal with it. It is not safe to feed cottonseed meal to calves, as there is an acid in it which causes poisoning to young animals, and will result in blindness and staggering. It is not necessary to get him fat enough so that you cannot feel his ribs. A calf that has been grown fairly rapidly will make good meat at an early age without being very fat. You want meat enough on him so that his loin is fairly well covered, and he should begin to thicken up some in the flanks.—G. E. M.

Price of Corn in Field

Ans. to P. H., Weld County, Colo.:

Certainly I would consider $3.50 per ton not too high for corn in the field preparatory to putting in a silo. Last winter probably 70 per cent of the silage in the Longmont section sold for $10 per ton out of the silo and good liberal charge to cover the cost of cutting the crop and putting into the silo is $2 per ton, $1.50 probably being more nearly the average. This, you see, would make the corn in the field worth in the neighborhood of $8. This is perhaps exceptionally high, but it is based on what was paid here last year. In other sections, silage sold at a lower figure, probably $6 being the average price paid thruout Colorado. Using that figure and the charge of $2 for filling, it would leave a price of $4 per ton in the field, which I think is as low as I would care to sell it for under present feed prices. The charge per acre would depend largely on the yield. With us, probably 9 to 10 tons being the average.—H. H. Simpson, County Agricultural Agent, Boulder County.

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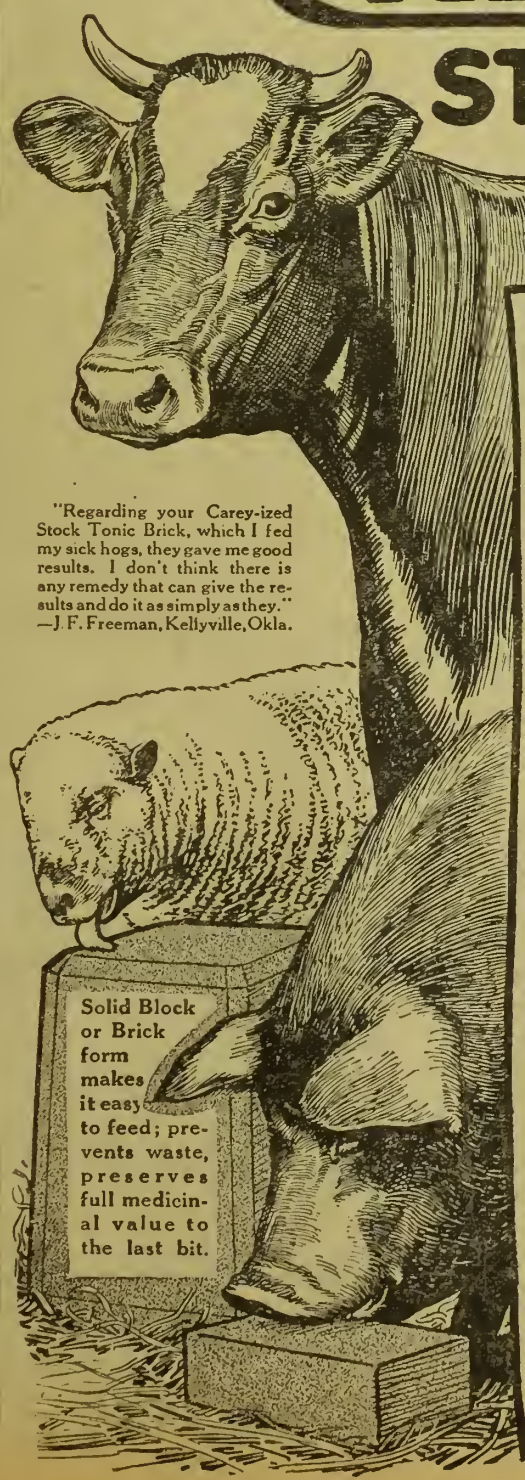

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Trapped

Continued from Page 11

"You must be a strong swimmer," the admiral commented quietly.

"Yes, sir," said Eben. "I swam there to the buoy and waited, and I overheard all that was said at the rendezvous."

"The spies reported?"

"Yes, sir."

"What was the report?"

"What Lieutenant Morse had told them—as you instructed him. That the transports would sail from Baltimore on the twentieth; would be escorted as far as the Banks—the whole story."

The admiral smiled faintly. "They swallowed it, then?"

"The whole thing, sir."

"Well?"

"The German told what they proposed to do."

"Excellent."

"Their submarines will rendezvous here—they counted upon escaping your notice by hiding under your very nose—and will then go out and attack the transports on the Banks after the convoy has left them."

"I presume they are confident of success."

"Yes, sir."

"They know the transports are armed?"

Eben's face lighted quickly. "There is something else, sir. They have a new searchlight. It serves as a searchlight for their purposes, but it blinds those who face it."

Admiral Bunt's lips set faintly. "Blinds us?" he echoed.

"Yes, sir. They call it the blinding searchlight."

The admiral glanced out across the water, tapped with his fingers on the glass that covered the chart. "That makes it—difficult," he commented.

"But the searchlight is useless in the daylight, sir," Eben told him.

"Useless in daylight. Are you sure?"

"The German confessed as much."

After a moment Eben—thoughts on Anne Marshall—asked: "Has Lieutenant Morse reported?"

"He suspects Nelson Hobart, who proposed your arrest. He has discovered nothing more." The admiral glanced keenly at Eben. "That reminds me—you saw the spies. Did you recognize them?"

"Yes, sir."

"Who are they?"

Eben hesitated, then put Anne from his heart and steeled himself. "They are—women," he said quietly.

The admiral's face clouded with sorrow. "Women?" he echoed. "Who?"

"Lieutenant Morse knows them—Mrs. Marshall and Miss Anne Marshall."

"They are at the Barbette?"

"Yes, sir."

"There is no—doubt of your recognition?"

"I wish there were, sir."

The admiral scrutinized Eben's countenance, nodded slowly. "I see, Mr. Scour," he said; and after a moment he extended his hand. Eben gripped it. "I'll have Morse keep an eye on them," the admiral decided.

"May I—suggest—"

"Certainly."

"Do not arrest them until the affair is consummated. It might give the alarm."

"Right. I will instruct Lieutenant Morse to that effect." He dismissed the matter, turned to the chart, studied it. "Wonder where the submarines are now?" he asked.

"Along the coast and on the Banks. They have supply ships among the fishing fleet."

"I thought so. The next thing is—how are we to get them?"

Eben said nothing—he watched the other's face. The admiral studied the chart for a long five minutes, then walked to the window and looked out across the water. Eben waited; and after a time the admiral turned toward him. "You've done useful work thus far, Mr. Scour," he said. "Have you a notion of the next step?"

"Yes, sir," said Eben steadily.

The admiral studied him. "We would do well to gather in the whole flotilla," he said quietly. "I shall not be content with less than that."

"It can be done, I believe."

"How?"

"You have nets here?"

"Of course."

"Mines? Bomb drags? Bomb nets?"

"Yes."

"Aeroplanes? They can see submarines in shallow water. Can they not?"

"Yes."

"And destroyers—chasers?"

"As many as we wish."

Eben drew a quick breath. "Did you ever visit the weirs, sir?" he asked. "The weirs where they catch the alewives and herring for the sardine factories?"

The admiral looked surprised. "No," he confessed.

"They are worth seeing," said Eben. "They are—suggestive, especially the purse-net which is laid in the pound."

The admiral crossed to his desk and sat down. "Tell me," he said briefly; and Eben took the chair across from the officer and leaned toward him and set forth his plan.

CHAPTER XVI
THE U-BOATS

Admiral Bunt was writing orders and requisitions. Eben had moved across the room and stood at the window looking out across the harbor. Now and then the wireless operator in the inner room glanced at him with a curious admiration and respect. Orderlies came and went. The officer who had been shifting the leaden ships upon the glass-covered chart was making out slips of paper which he laid in a pile at the admiral's elbow as the latter worked.

Another orderly was at the telephone. The wireless was busy; and the lights on the telephone switchboard were winking steadily.

There was a quiet confusion in the room. It was not a disorderly confusion. No voices were raised above a monotone; there was no heat, no excitement. Nevertheless, it was as though hidden machinery were whirring.

Eben saw a launch leave the pier below them and go racing across the water, turning back white furrows from her bows, till she reached one of the anchored destroyers. An officer boarded the knife-

Turn to Page 17

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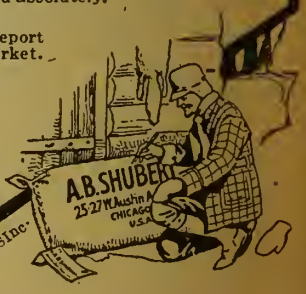

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Review of Secretary Houston's Annual Report

Continued from Page 5

markable headway, and there is little doubt that, after the return of peace, its development will be rapid and will more than fill the expectations of the people.

Personal Credits

It still seems clear that there should be provided a system of personal-credit unions, especially for the benefit of individuals whose financial circumstances and scale of operations make it difficult for them to secure accommodations through the ordinary channels. Organized commercial banks make short-term loans of a great aggregate volume to the farmers of the nation possessing the requisite individual credit, but there are many farmers who, because of their circumstances, are prevented from securing the accommodations they need. An investigation by the department to determine the extent to which farmers in the Southern states were dependent upon credit obtained from merchants revealed the fact that 60 per cent of them were operating under the "'advancing system." The men I have especially in mind are those whose operations are on a small scale and who are not in most cases intimately in touch with banking machinery, who know too little about financial operations, and whose cases usually do not receive the affirmative attention and sympathy of the banker. Such farmers would be much benefited by membership in co-operative credit associations or unions. * * *

The foundation for effective work in this direction is the successful promotion of co-operative associations among farmers, not only for better finance but also for better production, distribution, and higher living conditions. These activities are of primary importance. At the same time, it is recognized that such co-operation can not be forced upon a community, but must be a growth resulting from the volunteer, intelligent effort of the farmers themselves.

The department has steadily labored especially to promote this movement by conducting educational and demonstrational work. Field agents in marketing have been placed in most of the states to give it special attention, and the county agents and other extension workers have rendered, and will continue to render, valuable assistance The operation of the Farm Loan Board, especially in promoting the creation of its farm-loan associations, should be influential and highly beneficial.

What further can be done by the federal government directly to stimulate personal-credit unions it is difficult to outline. This matter has received consideration at the hands of many experts and was thoroughly canvassed by a joint committee of Congress. The conclusion, up to the present, seems to be that the field is one primarily for the states to occupy through sound legislation. During the last five years state laws, more or less adapted to the purpose, have been enacted in Massachusetts, New York, Rhode Island, Wisconsin, Texas, North Carolina, South Carolina, Utah, and Oregon. Under these about 125 associations have been organized, but the larger percentage of them have been formed by wage earners in urban centers. The attempt to develop strictly rural credit bodies has met with somewhat more success in North Carolina than elsewhere. In this state the work of promoting and supervising such organizations was placed in charge of an official in the Division of Markets and Rural Organization of the State College of Agriculture. The law of this state was enacted in 1915, and at present eighteen credit unions, all of them rural, are in operation. It is noteworthy that the North Carolina law makes special provision for educational and demonstrational activities.

In 1917 the Bureau of Markets prepared a tentative form of a model state personal credits law. This was published in its service and regulatory announcements. In it were embodied the best views on the subject, but it was submitted merely as a tentative plan.

The department, with its existing forces and available funds, will continue to foster the co-operative movement and to keep in close touch with the Federal Farm Loan Board.

Land Settlement

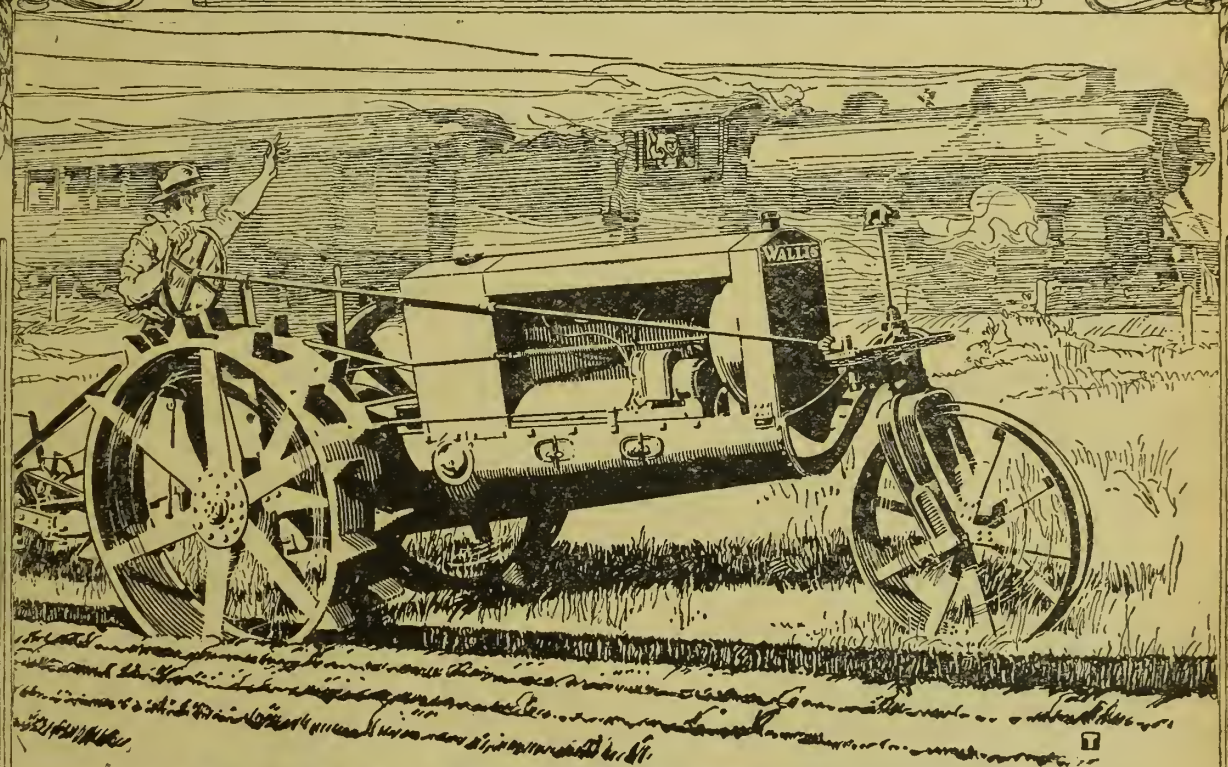
Interest in land for homes and farms increases in the nation as the population grows. It has become more marked as the area of public land suitable and available for agriculture has diminished. It is intensified at the present time by reason of the suggestion and desire that returned soldiers and others who may wish to secure farms shall have an opportunity to do so under suitable conditions. It finds expression, too, in discussions of the number of tenant farmers and in its meaning and significance.

That there is still room in the nation for many more people on farms is clear. The United States proper contains about 1,900,000,000 acres of land, of which an area of 1,140,000,000 acres, or 60 per cent, is tillable. Approximately 367,000,000 acres, or 32 per cent, of this was planted in crops in 1918. In other words, for every 100 acres now tilled 300 acres may be utilized when the country is fully settled. Of course, much of the best land, especially that most easily brought under cultivation and in reasonably easy reach of large consuming centers, is in use, though much of it, possibly 85 per cent, is not yielding full returns. Extension of the farmed area will consequently be made with greater expense for clearing, preparation, drainage, and irrigation, and for profitable operation will involve marketing arrangements of a high degree of perfection and the discriminating selection of crops having a relatively high unit value.

Increased production can therefore be secured in two ways, namely, through the use of more land and through the adoption of improved processes of cultivation of all land and of marketing. The latter involves the general application of the best methods used by the most skillful farmers and urged by experienced, practical, and scientific experts. * * *

Livestock Marketing Situation

The restoration and maintenance of conditions which will justify confidence in the livestock markets and meatpacking industry is the greatest single need in the present meat situation in the United States. It seems desirable, therefore, that the necessary legislation be enacted at the earliest possible moment. The assurance of open competition and the stabilizing of prices in the livestock markets, the elimination of evil practices, the adjustment of charges for market services, and the restoration of confidence in market conditions generally, apparently require three remedies, namely, regulation, information, and voluntary co-operation. Federal regulation, organized and administered as indicated above, exercised in close harmony with the regulatory bodies of the various states, is the most essential feature. Constant publicity, under government direction, of current market prices, supplies, movements, and other conditions pertaining to the marketing of livestock, meats, and animal by-products, would add immeasurably to the effectiveness of any form of regulation. It would also be a means of stabilizing the marketing of livestock and its products and of making available the information required by producers and distributors for the most intelligent and economical marketing of their products. Progress already has been made in the creation of machinery for such service at market centers in all parts of the United States. Legislative authority for its further development in connection with livestock market supervision should be continued and extended. Finally, better organization of livestock producers and closer co-operation between their organizations and those representing the different classes of intermediaries, all working in harmony with agencies of the government directly concerned, will also increase the effectiveness of regulation and publicity, make for the maximum of efficiency, and conduce to the welfare of the packers and distributors as well as of the producers and consumers.



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Farm Home Department

Questions about home problems promptly answered by letter and thru the magazine. Address all communications to Editor Home Department, Western Farm Life, Denver, Colorado.

We will have an announcement of great interest for our women readers probably in the next issue. The Home Department has been without a leader for several months, but arrangements are now being made to supply this important link in the chain of our editorial service. The department is to be made more helpful and practical. Women have been reaching out for a larger sphere; many who had seldom left the home circle in normal times, have during the year and a half of war been active in Red Cross or other phases of war work. They have been more frequent callers at the neighboring farm or ranch, or at the school house and church gathering, because of the war's leveling influences. This spirit of fraternity has had a broadening effect and now that the war is ended we should not slip back into the old channels. The socializing influence of war activities has been tremendous, and if the women are to take advantage of the impetus given them they will welcome suggestions through these columns and will, in turn, contribute of their own experiences toward helping others make farm home life more attractive.

Ice on the Farm

To the family on the farm there can come no greater comfort than a sufficient supply of ice for the summer season. Ice is an appetizer, making more palatable many a food product. It is also a source of economy, preventing the souring or spoiling of milk, fruit and vegetables. By its use the housewife may prepare in larger quantities various kinds of food and so make unnecessary continuous cooking. In the home where is health ice is an economy and a luxury; when some member of the farm family is ill of fever it becomes a necessity.

Once ice has been used in the home no one is willing to do without it. Here is what one intelligent country woman says: "Nothing, I think, helps a farmer's wife so much as plenty of ice. Especially is this true of harvest and threshing time. The day before threshing, chickes may be dressed, fruit stewed, slaw, salad and cottage cheese made, pie crust prepared and boiled custard made ready and put on ice. Besides that, every evening the biscuit dough for breakfast may be 'amde up' and placed on the ice. The next morning while the oven is heating the biscuits are rolled out and placed in the baking pan. Auy fresh meat intended for breakfast may also be made ready. And what is better than a saucer of puffed rice or wheat with the thick golden cream we may have when there is plenty of ice? Then for Sunday dinner, on a hot day, what a relief it is just to open the ice box when we return from church and get out dinner instead of having to perspire over a hot stove. In the refrigerator we perhaps have pressed chicken, tomatoes with mayonnaise dressing, baked apples, a favorite salad or pudding and even iced tea. Then, too, there is the big freezer of cream frozen and packed before time for churchgoing."

An ample supply of ice is of greater economic importance in the country home than in the city residence. City people can purchase perishable supplies as needed, but the remoteness of country homes from markets often renders it necessary to use canned, corned or smoked meat products during the season of the year when the table should be supplied with fresh meats.

In the ice house to which we refer the ice put in on the first day measured seven inches and on the second day almost nine inches, there having been practically two inches of ice "made" over night. The ice was nicely sawed in blocks and carefully placed on edge in the ice house so that there were no air spaces. Between the ice and wall a 12-inch space was left, this being filled with tightly-packed sawdust.

This house has no double wall filled with sawdust, as did an old one on the same farm and which proved a poor ice keeper, especially after rats had worked in the walls, as they so often do. In the old house the ice usually melted and ran together until it was a task to get it out, even with crowbars and axe. In the present house, which has been in use more than ten years, ice keeps almost perfectly and comes out in beautiful blocks. The secret of the keeping qualities of this house is, we believe, to be found in the outer walls built around the inner walls or bin and about two feet away, thus allowing for a liberal air space. The arrangement might be described as an ordinary box house, without pillars or foundation, white oak posts being set in the ground about two feet apart, oak boards placed horizontally being nailed on the inside so as to get greater strength. Around this inner box, bin or house are built the walls of the house proper, which is provided with a good shingle roof. Small windows in the gable ends allow for necessary ventilation.

The only drainage provided in the house comes from having old rails placed in the bottom. These are covered with straw to a depth of several inches, and on top of this is a layer of sawdust. When the house is filled with ice a layer of sawdust, kept thoroughly packed and tramped, is provided. In this connection it might be said that new or green sawdust should never be used. Get old, well-rotted sawdust and store it where it will be ready when needed.

—From Missouri Bulletin, "Ice on the Farm."

Grandmother Hegg Uses the Old Spinning Wheel

Uses the Old Spinning Wheel

In one of the remote districts of Washington, where she is far-removed from the busy marts of trade, lives "Grandmother" Hegg, a loyal American. Anxious to do her bit, through the American Red Cross, toward keeping the Yankee fighting men warm and comfortable, she brought forth her spinning wheel, long since consigned to the attic, to produce her own yarn.

"Grandmother" Hegg well remembers the time when all wool was spun by hand in private homes for family consumption, and, although she had been out of practice for many years, it did not take her long to acquire her old-time dexterity at the picturesque task.

And, here in the illustration, she is shown at her work—a work that has provided yarn for more than 1,800 knitted garments since April 7, 1917. At her left is Mrs. Ella Wolf, who has carded the wool preparatory for spinning, and, at the right, Miss Cora Hegg is demonstrating the final step in the process of producing a sweater made from the wool spun by "Grandmother" Hegg. It is believed these garments are the nearest thing to wearing apparel direct from producer to consumer that have been distributed to the men in the service.

PATTERN DEPARTMENT

All patterns 15c each. Address WESTERN FARM LIFE, Pattern Department, Fourteenth and Arapahoe, Denver, Colo.

2670—Service Dress or Business Gown. For small women, this style is especially attractive. The closing is effected on left side and shoulder and the fullness is held over the sides by the belt. This model is good for serge or gabardine, for satin, velvet, silk, corduroy, duvetyn and jersey cloth. It will be nice in plain cloth combined with checked or plaid suiting. Cut in sizes 16, 18 and 20 years. Size 18 requires 5⅝ yards of 40-inch material. Width of skirt at lower edge is about 2½ yards with plaits drawn out.

2297—A Simple, One-Piece Model. This style is excellent for home wear. Its lines are comfortable and becoming and it is suited to any of the materials now in vogue. Satin or serge with braid or embroidery could be used. It is also nice for velvet and crepe, cashmere or gabardine. Cut in sizes 34, 36, 38, 40, 42 and 44 inches bust measure. Size 36 requires 7 yards of 36-inch material. The skirt portion measures about 2½ yards at the foot.

2656—A Popular Style. For this, one could choose nainsook, lawn or crepe for the guimpe, and gabardine, serge or plaid suiting for the overdress. The sleeve may be finished in wrist or elbow length. The skirt front forms a panel. At the sides and back, the fullness is gathered. Cut in sizes 6, 8, 10 and 12 years. Size 10 requires 2¼ yards for the guimpe and 2⅞ yards for the dress, of 27-inch material.

2669—A New and Stylish Model. This design is good for satin, velvetcen, gabardine, crepe, and also for linen, taffeta, batiste and voile. There is a choice in the neck finish, which may be made with a chemisette in low or high outline, or without it, or the waist may be finished with the collar. Cut in sizes 34, 36, 38, 40, 42, 44 and 46 inches bust measure. Size 38 requires 3½ yards of 27-inch material. Collar and chemisette will require ¾ yard of 30-inch material.

Trapped

Continued from Page 14

like craft, remained aboard for a time, then returned to his launch and was swept back to the shore.

Over beyond the destroyers two barges were at anchor. A tug lying at one of the other piers loosed her lines and slipped out and picked up the hawsers from these barges. The anchor winces rattled and the tug started for the harbor mouth with the barges in tow. Four destroyers slipped quietly after the barges. They went silently, smoothly, without flurry; but the turning wave at their bows rose higher and higher against their dark sides until they overhauled the barges. Then they slowed and went soberly out of the harbor. Outside Eben saw tug and barges turn south and then southwest and disappear along the coast.

Half an hour later smoke appeared due south of the harbor; and presently the gray shape of a great cruiser outlined itself, lifting above the horizon. It came on and Eben discerned the two destroyers which accompanied and protected it. When it reached the harbor mouth Eben felt a hand on his shoulder and turned and saw the admiral. Admiral Bunt pointel; and he explained:

"I've called them—and others—in for orders. Best not to trust, even to the code, when it is not necessary."

Eben nodded. "Codes can be solved," he agreed. "I've done a little in that line myself."

The admiral smiled. "You have done more than a little for—us all, Mr. Scour," he told Eben, and the lame man flushed with pride. "You realize that?"

"I am glad," said Eben steadily.

"So are we. What might have been a calamity will be—a victory."

"You believe the idea will work?"

"Barring a mischance—yes."

Eben's eyes turned out across the fighting ships in the harbor; and there was a light in them that mirrored the leaping of his heart. The admiral's hand still rested on the little man's shoulder and he asked quietly:

"Have you not thought that you might deserve credit—and reward?"

"I did not work for any reward."

"Naturally. Nevertheless, if you could choose, what would you choose?"

Eben turned to look at the older man, hesitated. "I have—tried for three years to find a place in the army—or the navy," he confessed.

The admiral nodded. "They refused you?"

"Because of my lameness."

The older man smiled. "They are inclined to be too rigorous in their requirements," he commented. "They fail to take account of the fact that zeal covers a multitude of shortcomings." He paused; and Eben kept silent, some promise in the officer's voice stirring him so that he trembled. The admiral asked: "Do you wish a commission?"

"I should like to shovel coal if that would help."

"Lameness is no great handicap on shipboard. When this task is done I believe we shall have a place for you."

Eben could not speak; and after a moment the other saw this, and smiled in a friendly way. "Come to me then," he promised. "Come to me then."

He gripped Eben's hand, looked down the pier's length to where the chaser that had brought Eben still lay. "Shall I have Ensign Linder take you back?"

Eben assented swiftly. "Please. And—thank you."

"Thanks are your due, Mr. Scour, not ours," said the admiral. He turned to an orderly. "Take Mr. Scour down to the C-15."

The man bowed, with deference and respect in his eyes; and Eben followed him down and along the pier till Linder welcomed him. Five minutes later, the fast little craft was picking its way out through the harbor. They passed under the towering sides of the cruiser, and Linder looked up at her and said to Eben:

"Wonder why she came in? She wasn't due till tomorrow."

Eben said nothing; and Carl glanced at him curiously and nodded with understanding, and said no more.

When they were outside the harbor, Eben said: "I'm going back to the monument. But not till after it is dark."

"Then we've a day on our hands."

"I'll stay with you. You're stationed behind the island, are you not?"

"Yes."

"And in the mean time I'm going to get a little sleep."

"Don't blame you. I'll call you—when?"

"I'll wake," Eben told him. "Plan to touch at the monument as soon as it is dark."

Linder nodded, led Eben to his own tiny cabin. Within ten minutes, the lame man was asleep.

He woke to the low hum and patter of water upon the decks and on the roof of his cabin; and when he went out to find Linder, it was raining, a driving rain that came sweeping out of the east and lashed at the water spitefully. It was dusk, and the air was thick with mist. The sea was rough; and Eben called through the whipping wind:

"Didn't suppose they had such a chop in the bay here."

"We're off the head, north of the island," Linder explained. "Tide's coming in both sides of the island, and the river current coming down, and this wind. Get a good one here, now and then."

"There's never such a sea at the Barbette."

"You're sheltered there."

Eben nodded. "You could run up to the monument now," he suggested. "No danger of being seen, I should say."

"You couldn't land on her," Linder told him. "This chop would smash any boat that went near the place."

Eben hesitated. "That's bad," he commented. "I ought to be there."

"No help for it. But this will die down when the tide turns."

The lame man thought for a moment, then: "All right," he said. "Do something else for me, then."

"Sure."

"Put me ashore at the Barbette."

"I can do that without any trouble, if you won't be seen."

Eben shook his head. "They'll all be indoors in such weather—and it will be dark as the pit by the time you get there."

Linder nodded turned to give an order. The chaser had been riding with head to wind, steaming slowly. She turned, wallowed desperately for a moment in the trough, and then fled before the storm like a frightened duck, and the great seas pursued her endlessly, and strove with futile wrath to climb aboard her stern and crush her under. Eben had to grip a support to keep from falling.

For ten minutes—fifteen—this tumult continued. Then there came an abrupt modification of the pitching struggles of the little craft, and Linder called: "We're past the worst of it." They drove on, slowed, picked their way forward. Suddenly Linder caught Eben's arm. "That's good picking," he exclaimed triumphantly. "There's the Barbette, dead ahead."

Eben peered through the black night, could discern nothing. "How can you see anything?" he asked curiously.

"See the big tree, black against the sky?"

The lame man made out the dim shape on the sky-line; and Linder explained: "That's just above Morse's cottage."

Eben nodded. "Good enough," he said. "Land me on his beach, will you?"

Linder assented; and a moment later the chaser slowed and swung and headed off shore again, quartering across the waves so that there was less troubled water in her lee. A boat dropped smartly from its davits, and Eben entered it and the oarsmen pulled shoreward.

"Tide's almost at the flood," Eben said softly to Linder, who was at the tiller. "Watch for a rock below you here on the beach."

Linder nooded intently. "You're going to get your feet wet," he warned Eben.

"I expect to," Eben agreed.

The boat's prow grated softly on the gravel as the oarsmen backed water, and Eben leaped over the side and waded ashore. "Shall I wait?" Linder called.

"No—I'll manage."

Linder spoke to his men; the boat backed out, turned, and departed through the night. Fifty feet away it was a black blur upon the water. A hundred feet and it was gone.

Eben looked about him. He had been landed at flood tide, not ten feet from the sea wall before the cottage Lieutenant Morse was occupying. There was a light in the living-room of the cottage, and its rays shone faintly through the rain. Linder had given Eben a set of oilskins; but the rain trickled down his neck and drenched him.

He stepped toward the sea wall, mounted it, crept around the Morse cottage. The Outpost where the Marshalls dwelt, next door, had also a light in the window but Eben went to the opposite side of the Morse cottage and tapped on the door. The lieutenant appeared, recognized Eben, cried softly:

"Scour! Come in."

Eben entered. Morse closed the door behind him, turned, and Eben asked quietly:

"Any one here?"

"Only Mrs. Morse and the kiddie."

Eben nodded. "Good. I want to talk to you. Better not bother them."

The lieutenant assented. "She knows about you. I'll tell her you're here." He left Eben, went into the living-room, returned a moment later. "She's gone to bed," he said. "We can go in by the fire."

"Better draw the blinds," Eben told him.

"I've done so."

They went into the living-room together, and Eben looked at the lieutenant curiously. Morse asked: "What's the matter?"

Eben laughed. "This is the first time I've seen you—as you are," he explained. "You're not like the saphead you appeared to be."

Morse grinned. "Mrs. Morse said she never would have married me if she'd even known I could act like that," he confessed.

"You did a good job," Eben agreed. "Now, what's the news here?"

"Not much!"

"Hobart still think I'm a spy?"

"Yes—and I'm inclined to think he's the gentleman himself."

Eben shook his head. "No, I know who it is."

"Who?"

"Haven't you heard from Admiral Bunt today?"

"No."

"He is sending you instructions. You're to watch—but take no action except in an emergency. It's—the Marshalls."

Lieutenant Morse stared. "That girl—the woman?"

"Yes." Eben's voice was stony.

"Why—I could believe it of the woman. But the girl seems a nice sort."

Eben nodded. "That was my thought," he confessed. "Nevertheless, I saw them meet the German officers." He checked the lieutenant's exclamation. "Is my microphone still in the water?"

Morse shook his head. "Hohart and I removed it. I thought he might use it."

"Where is it?"

"I have it here."

Eben exulted. "Fine!" I shall need that."

"What's up?" Morse asked curiously.

"How about the canoe?"

"It's where you left it."

Eben rose abruptly. "The wind is dying—and the sea," he said. "I want to get the microphone into the canoe and take them off to the monument. Will you come along and bring back the canoe?"

"Of course." Morse was on his feet. "I'll get the thing—tell Mrs. Morse I'm going."

The lame man turned to the door. "I'll meet you by the canoe," he said.

Outside, he turned first toward the Hobart cottage; but something held his steps and reluctantly he walked around the Morse veranda till he could see the Outpost next door.

There was a fire in the living-room, a lamp upon the table. Anne sat beside the table; and the light from the lamp fell full upon her face. A magazine lay in her lap, ignored. She was staring at the fire, her countenance set in wistful, tragic lines. As Eben watched, something rose in his throat and choked him. He turned away.

They had forgotten the canoe paddles, which were kept in Eben's own little cottage. He went up the hill to get them, and when he returned Morse was at the canoe, awaiting him. "I've put the microphone in it," the lieutenant whispered.

They bore the slender craft to the water, and a moment later were paddling out into the bay. The rain was descending now in a steady, beating downpour that crushed the waves and flattened them; and the canoe rode easily. Neither spoke. By and by, the gleam of the buglight penetrated the curtain of the rain and guided them on their way. There was a slow swell about the monument, and it was dangerous to approach it in the canoe; nevertheless, they managed it safely.

Eben uncoiled the wires which were attached to the microphone, and they went off in the canoe and sank the thing carefully in twenty feet of water. Then Eben returned to the monument, and Morse asked:

"Anything else?"

"No, thanks," Eben told him; then corrected himself. "Wait, one thing. Keep an eye on the light here. If it signals any message you can read, telephone it to the admiral, will you?"

"Surely."

"Thanks. Good-by."

Morse shoved off, turned the canoe expertly, headed back toward the Barbette. Eben was left alone upon the monument. The swells surged and broke against the stones at his feet; the rain thrashed his shoulders ceaselessly; and above his head the light winked its faithful warning. The wind had died, and the loud rasp and clank of the bell-buoy came distinctly through the night.

Eben put the receivers of the microphone to his ears, listened for an hour; but no sound came to him save the stirring of the water on the stones about the monument. At length he put the earpieces away. "They'll not come tonight, at least," he told himself; and he went into the light and disposed himself to sleep.

That began a lonely vigil for Eben. The rain persisted, fog held the bay in its blanketing grip. Through the next day no single craft came within his sight. He was isolated in a world of his own, a world bounded by the edges of the platform on top of the monument. His microphone brought him the staccato notes of an occasional motor, and the propeller of the Boston boat roared in his ears morning and night while the great ship, with foghorn screaming, groped its way past him in the mist.

That night, Carl Linder came with food and drink; and he stayed till an hour before dawn. While he sat with the receivers at his ears, Eben slept, and when Carl departed, Eben began the second day of his vigil. It passed like the first. The rain pelted down; the water seethed murkily about th monument; the boats groped past in the fog.

At dusk—and the dusk came early because of the rain and mist—Eben took up the receivers of the microphone and clamped them to his ears; and he settled himself to wait. On this night, if the German plan held, the submarines would come.

Toward nine o'clock the rain ceased, and when Eben went outside the light he found that the fog and mist had lifted and the skies were clearing. Here and there a star showed.

At twenty minutes before ten o'clock, he heard the sound of a propeller in the microphone. Ten minutes later it had become loud and distinct, and Eben's heart was pounding in his breast.

At a little after ten o'clock, he realized that the microphone was filled with a faint humming and whirring which he

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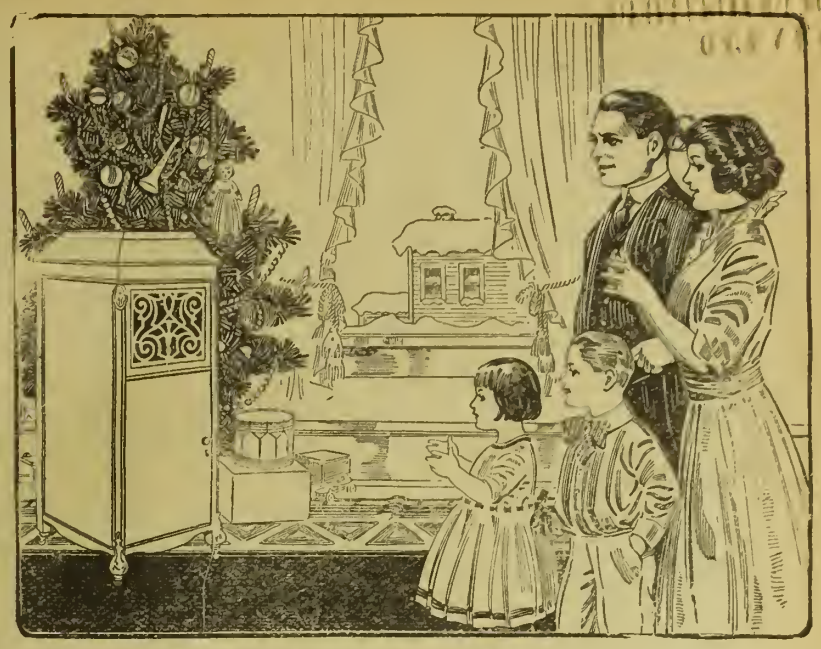

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Questions about the farm flock promptly answered by letter. Free advice on all phases of poultry production. Address all inquiries Poultry Department, Western Farm Life, Denver, Colorado.

World's records? What's the use of trying to remember them? They are being busted as fast as they are being made.

We had a White Plymouth Rock hen a few years ago that laid forty-six eggs in fifty-two days, in the early summer, of course, but the remarkable thing was that she was in her sixth year. On the college farm we had two Buff Orpington hens, two or more years old, that laid for twenty-six consecutive days; we were getting nervous about it just then and one broke by getting broody. These hens were donated to the college by Professor Kay of Pueblo. These were not world's records, just little instances, but they are in line with a little story we have to tell about real business hens. We take this story from the Reliable Poultry Journal. The story, as it appears in the Reliable Poultry Journal, is too long for our busy farmers, so we will condense it to the point where they can afford to read it; it may recall to their minds the stories they have heard of old hens, Marathon layers, snakes and cold weather. How long—that is, to what age—shall we keep our hens? How long is a hen profitable as a layer? Will a hen lay as many eggs in her second as in her first year? Some light will be thrown on these questions by this story—but remember, the story is about individual and exceptional hens.

Joan of Arc, a White Leghorn hen owned by Purdue University, laid in seven years her own weight thirty-three times in marketable eggs. She laid, in years, as follows: 147, 162, 119, 185, 160, 127, 100—total, 1,000. Get out pencil and paper and do a little figuring—it's about as relaxing as a movie show. How many such hens would you need to make you a good income?

Cornell University has a number of "long distance" thousand-egg hens. Professor James E. Rice, who has had charge of the poultry work at Cornell for many years, says:

"Manifestly, constitutional vigor, in its most important manifestation, namely, the production of fertile, hatchable eggs and strong, virile stock must be given major consideration when coupled with a tendency to high production. We can have either, neither or both of the combinations—vitality and fecundity. The one who wins in the production of profitable laying stock is the breeder who best combines these two characteristics—'useless each without the other.'"

Lady Cornell, White Leghorn, beginning December 6, 1909, and ending July 26, 1913, laid as follows: 248, 200, 201, 123—total, 772 eggs in four years.

Cornell Supreme, White Leghorn, laid, beginning December 10, 1909, and ending July 3, 1913, 789 eggs. On the latter date she died.

Hen No. A3077, a Cornell White Leghorn, laid 1,138 eggs, beginning January 27, 1910, ending April 3, 1918. In her first year she laid 148 eggs, in her last full year 122; her best year was the second with a record of 159 eggs. She was still laying August 29, 1918. At 2 ounces per egg she laid 2,276 ounces, 142 pounds, of eggs, probably, or nearly, 40 times her own weight.

Hen A5727 laid 1,013 eggs from December 14, 1910, to August 15, 1918. Hen A7534, from November 16, 1910, to September 20, 1917, laid an even 1,000 eggs.

This is only a few of the many remarkable Cornell layers, but we want our readers to skip to the west and visit Oregon. Out there they have originated a new hen, cross of Leghorn and Rock, and much to the disappointment and chagrin of some fanciers these cross-bred hens have become leaders in long-distance laying.

Hen A27 began laying February 4, 1910, and in five years laid 987 eggs, or about an average of 200 eggs a year. In her sixth year she brought the total up to 1,126 eggs. Pretty good for a western hen.

Professor Dryden reports six hens that have laid 1,000 or more eggs; the first one recorded was a White Leghorn, the one mentioned above. A daughter of this hen to date has laid 1,096 eggs, and has not yet completed her seventh year of laying.

The other four hens reported by the Oregon Agricultural College are crosses and have records as follows: A60 laid 1,076 eggs in six years and 1,152 eggs in eight years and then died; B42 laid 988 eggs in five years, 1,073 eggs in six years, 1,173 in seven years and is still at it. B14 laid 1,016 in five years and up into her eighth year has laid 1,238 eggs and is still laying. The last one, C547, laid 1,027 in five years and 1,104 in her sixth and is still laying. Please notice that No. C547 laid an average of 205 2-5 eggs for five years. A record unequaled by any hen of which we have record.

Kansas has a Leghorn hen that laid 226 eggs in her fourth year.

They tell us that the average farm hen lays six dozen eggs a year, and perhaps that is a fair estimate—why? Because she is a farm hen? No. Because she's a cross or mongrel? No. Because she's starved? No. Then why? Here are some of the reasons:

Breeding—or use the term selection if it sounds better; the farm hen has been kept on the job, not because she was most fit by reason of performance, or because her mother and grandmother were good producers, but because she was most fit, physically, to survive the hardships incident to her surroundings. Breeding, selection, elimination, must be practiced to increase egg production.

Second—Time of hatching. It stands to reason that a pullet, hatched early enough to get into the lay in early winter, everything else being equal, will lay more eggs before her first molt than the pullet that comes along the spring following her birth. Two or three more months of laying the first year will mean 30 to 50 more eggs.

Third—Management. Chance, carelessness, neglect in care, will be as fatal to increased production as chance, carelessness, neglect in breeding, hatching and rearing. Good buildings, exercise, food in variety and plenty of it must supplement breeding and early hatching.

We predict that when these factors obtain on the farm a mighty good profit will come and the poultry flock will prove a pride.—W. E. V.

50 Eggs a Day

"Since using 'More Eggs' I get 40 to 50 eggs a day instead of 8 or 9," writes A. P. Woodard of St. Cloud, Fla. This scientific tonic has made big egg profits for thousands of poultry raisers all over the U. S. Get ready now and make big profits out of your hens this winter. A $1.00 package will double the egg production and a million dollar bank guarantees to refund your money if you are not entirely satisfied. Send $1.00 now to E. J. Reefer, the poultry expert, 4029 Reefer Bldg., Kansas City, Mo., are send $2.25 and get 3 regular $1.00 packages on special discount for a full season's supply. Or write for his valuable FREE book that tells the experience of a man who has made a fortune out of poultry.

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Trapped

Continued from Page 17

presently identified as the beat of propellers still far down the bay; and he peered through the night in an effort to pierce the darkness and discern the forms of the submarines he was confident were lying in the water to the south of the monument.

For two hours the microphone continued to bring its faint hints of sound. Now and then the humming grew loud as some craft drew nearer the monument, only to break off short when the U-boat's engines were stopped while it lay waiting at the rendezvous.

By midnight the stars were shining, and beneath their calm light the water gleamed black as coal. Here and there a hint of phosphorescence showed in it as some fish broke the surface. The air was heavy and dull, and there was a curious tingle in it which made Eben's skin prick and shrink beneath his garments. Faint northern lights were flickering across the sky.

At ten minutes before one o'clock a long, dark shape slid silently past the monument and not two hundred yards to the south of it, and Eben knew it for a submarine. The U-boat slowed and came to a stop while Eben could discern its shadowy form; and for a moment he feared it would send a boat to the monument. But none came; and Eben waited.

Slowly he picked out other shadows in the night. At two o'clock he counted with some certainty seven U-boats lying within half a mile of the light, their long decks barely silhouetted against the starlit waters.

No lights showed on them; no sounds came from them. They were like great creatures of the deep, sleeping there. There was somthing inhuman and uncanny about them, something oppressive. Eben trembled.

At exactly half past two, a submarine-bell sounded some signal. Ashore, Eben had deciphered the code which the U-boats used in this submarine signaling; but he did not have his key to the code with him, and he raged inwardly at his inability now to understand. The signaling seemed to come from a single craft; it was evidently a lengthy message. The bell sounded for perhaps five minutes, then ceased.

Half an hour later it sounded again, and then began what Eben quickly understood was a roll-call of the U-boats. The craft on which the German commander was stationed was calling to her sister-ships; and each in turn answered her. The first time this call was given Eben was slow in understanding its nature, but when it began a second time he was alert.

Each boat, he judged, was designated by a number, for the signals followed an orderly sequence. The first call—one tap—was answered by a single tap from some boat at a distance, the bell's note coming less loudly to Eben's ears. Then the first boat gave two taps, and a second plunger answered. Three, and the answer; four, five. Then a new series. Two taps close together, a single one following, and the answer in kind. While the calls went on, Eben listened, counted under his breath.

"One, two, three, four five—"

He counted twenty-four calls from the flag-ship of the submarine flotilla. Twenty-three calls were answered, evidently by the U-boat designated. One—the call was three taps together and one following—failed to answer.

"Twenty-three answer," Eben whispered. "One gives the calls. That means twenty-four are here." He hesitated thoughtfully. One plunger was yet to come, if the full twenty-five were to keep the rendezvous. He hesitated, and while he stood thinking the flag-ship called once, and then again, for the missing craft.

When still no answer came, silence fell. The microphone no longer brought to Eben any sound. The dim and shadowy shapes still lay upon the water about him.

"It is enough," Eben decided exultantly. "A fair bag."

He tore off the microphone receivers, threw them from him. They slipped over the side of the monument into the water. Eben crept into the light, took his coat, and thrice obscured the flash.

He waited a moment, then repeated the signal; and then in the wireless code spelled out: "Subs here. Draw the purse-line at once."

When the last letter was spelled out Eben dropped down out of the light-chamber and stepped out on top of the monument. His first glance went far toward the northern end of the island, where Carl Linder was waiting; and his heart leaped at sight of a red light that glowed thrice there.

The signal was given, his work was done, the submarines were trapped. Within five minutes barges would be dropping bomb-nets, and mine-layers would be busy closing every avenue of access to these upper reaches of the bay. No submarine could reach that line of mines within an hour. Within that time the purse-line would be drawn, the purse-net closed.

(To be Concluded in Next Issue)

Farmers' and Stockmen's Exchange

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IF YOU WANT TO SELL OR EXCHANGE your property, write me. John J. Black, 33rd St., Chippewa Falls, Wis.

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Are you prepared to meet this demand? The future for the horse breeder is without a doubt most attractive.

Tell us what you are most interested in and receive one of our 1919 calendars.

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She has produced this year on official test, over 9,000 pounds milk and 350 pounds butter fat in nine months, and still has three months to go. Should exceed 11,000 pounds.

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We have 17 cows on official test.

Herd headed by DUKE GLENROSE No. 410244, grandson of Rose of Glenside, world's record cow—official record, 18,075 pounds milk, 735 pounds butter, in one year. The two nearest dams of Duke Glenrose average 14,030 pounds milk, and his six nearest dams average 11,517 pounds—all official tests.

We have a few bull calves sired by Duke Glenrose from record cows at prices from $300 up.

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In Durocs, I have a couple of fine fall boars, sired by a son of Grand Model, at low prices.

Can spare a bred yearling sow and a few spring boars and gilts.

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We have two good March boars left. One weighs 275 pounds, is squarely built, heavy boned, even in width and a good feeder. He is good enough to use in most pure bred herds, and is a grandson of old Orion Cherry King. Price, $100. The other is a litter mate, rangier in type, weight 260 pounds. He is a high class, big type boar, not quite so wide a pig as the other. Price, $75. We believe these boars are extra value for the money. We have some July boars at $35 to $60, and one outstanding pig, tall and stretchy, with plenty of growth, $100, for delivery after the Denver Stock Show. Our cull boars go in the pork barrel, and we guarantee you satisfaction. We are sold out of sow pigs except one fancy granddaughter of Orion Cherry King, bred to our son of Great Sensation.

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We are sold out of spring boars, but have July pigs of both breeds and sexes. Write for December price list. We also have some bred Duroc and Poland gilts.

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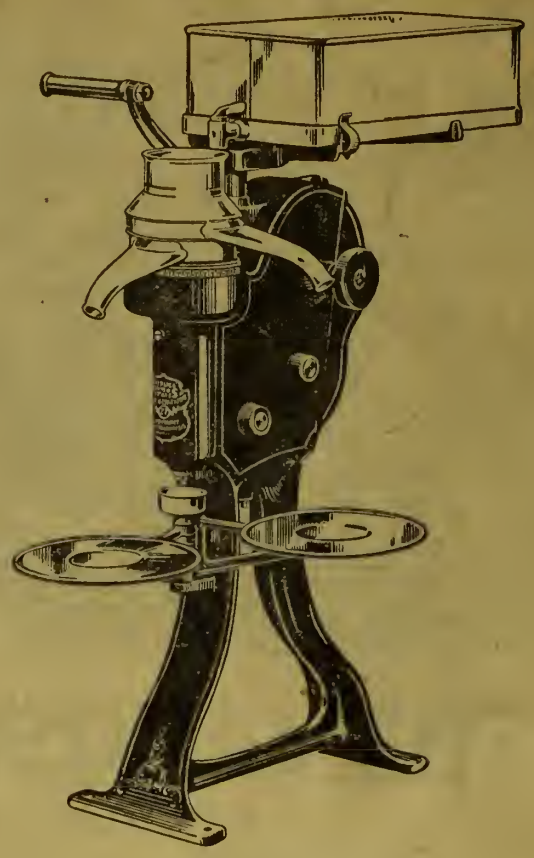
Five weeks old, 15-16 pure, mostly white, $25 crated. Two months old, $35. Registered bulls two months old, best quality, $70. Two-year-old springers, $125. Cows crated, $150. Write us for car lots. Buy the best —it pays in the end. Dr. J. A. Roberts Stock Farms, Oconomowoc, Wis.



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The "United States" has changed—for the better. Our peace-time job will be to keep this machine so efficient that when a better separator is made, it will be a

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Things You'll Notice Every Day You Own a "United States"

Get these three points fixed *Now;* others later

FIRST—One-piece frame construction. Means long life—it is made to grow old gracefully.

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